MAY
1956

- "2YY" TRANSMITTER, TUNING & ADJUSTMENTS
- RELAYS
- CONTEST RESULTS
- PORTABLE-MOBILE OPERATION

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Co-ax Connectors, Ampenol type, male and female ..... 7/6 pair

Co-ax, indoor type, cotton covered ..... 1/- yard

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2208.1 Kc.	5722.222 Kc.	7024 Kc.	7080 Kc	8011 Kc.
2218.7 Kc.	5744.444 Kc.	7025 Kc.	7100 Kc.	8155.714 Kc.
3382.5 Kc.	5750 Kc.	7028 Kc.	7106.7 Kc.	8161.538 Kc.
3500 Kc.	5892.5 Kc.	7028.5 Kc.	7110 Kc.	8171.25 Kc.
3535 Kc.	6350 Kc.	7032 Kc.	7120 Kc.	8176.923 Kc.
4096.6 Kc.	6375 Kc.	7032.6 Kc.	7121 Kc.	8182.5 Kc.
4285 Kc.	6450 Kc.	7035 Kc.	7125 Kc.	8183.5 Kc.
4495 Kc.	6850 Kc.	7040 Kc.	7126 Kc.	8317.2 Kc.
4535 Kc.	7004 Kc.	7042.65 Kc.	7130 Kc.	8320 Kc.
4540 Kc.	7005 Kc.	7045 Kc.	7134 Kc.	10.511 Mc.
5000 Kc.	7010 Kc.	7047 Kc.	7140 Kc.	10.515 Mc.
5050 Kc.	7010.7 Kc.	7050 Kc.	7145 Kc.	10.524 Mc.
5300 Kc.	7011.5 Kc.	7053.5 Kc.	7150 Kc.	10.530 Mc.
5360 Kc.	7011.75 Kc.	7063 Kc.	7156 Kc.	10.5465 Mc.
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MAY — — — — — 1956
Vol. 24 No. 5

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Wireless Institute of Australia (Victorian Division) Rooms' Phone Number is MY 1087.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3560 and 14342 Kc. 3560 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements on all bands to 50 Mc.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc and 146.5 Mc. No frequency checks are available.

VK9WI: Sundays, 1000 hours EST, simultaneously on 3.5, 7, 14 and 144 Mc. Individual frequency checks of Amateur Stations given when VK9WI is on the air.

AMATEUR RADIO

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EDITORIAL

★

THE PLEBISCITE

The holding a plebiscite dates back to the days of ancient Rome when it was used to obtain a direct vote of all electors of the State on important public questions. Although many centuries have passed since the first plebiscite of the people, the principle is still carried on today—witness the use of the Referendum—which is the modern plebiscite. In a nutshell, it is the proper democratic way of obtaining the views of the electors on matters of import.

So it is in any well organised society that questions of a contentious nature are settled by a vote of all members. This is right in principle, but it is only truly representative if all the members vote and not just some. In other spheres, the result of a ballot is decided by a minority of the members at times leading to unpopular decisions being made which do not please the average member. This state of affairs can be laid at the doors of the members themselves who develop an indolent and "couldn't-careless" outlook. The officers of the society may justifiably reply "Well it is of your own doing." We prefer to think of it as "of your own NOT doing."

While this Institute practises the principles enunciated above at almost any Divisional meeting, it is rather unusual, if not unique, to call for a vote of ALL Amateurs on a Federal plane. To our knowledge, it has not been attempted before, probably due to difficulties of distance and other factors. You will correctly assume that such a plebiscite of Amateurs must be one of some importance. We consider it to be so, but the subject must, for the present, still remain a mystery.

Speculation whets the appetite and this is the intention here as well as to indelibly impress on your mind the importance of YOUR vote when it is called for. When you obtain the form, fill it in conscientiously and correctly and send it where directed. Remember, your vote is important even if of a negative nature. PRO BONUM PUBLICUM.

FEDERAL EXECUTIVE.

THE CONTENTS

Testing and Adjusting The "2YY" Transmitter

(VK2YY is the call sign of the Radio Section of the Leichhardt Petersham Technical College)

BY N. S. BEARD,* VK2ALJ

The 240v. a.c., switching sequence is as follows and is simple enough:—

The first switch places a.c. on the primary of the p.a. filament transformer, giving 6.3 volts for the transmitter heaters, and 5 volts for the p.a., h.t. rectifier. When these are on, the second switch closes the primary a.c. to the p.a. h.t. transformer, but this is interrupted by the S/R switch, so that although this switch must be closed before the modulator can be switched on, there is no h.t. on the p.a. or the signal shifter, until the S/R switch (or the S/R relay) is closed. The relay in the 6V6 driver supply closes the h.t. to the triode driver in the modulator, so that although the modulators are drawing current continuously when using phone, there is no speech input to the grids of the modulators, unless there is a d.c. input to the 6V6 driver in the transmitter.

The third ("Mod.") switch closes the a.c. to the modulator h.t. supply. When this switch is closed, the speech amplifier and modulator heaters are connected, and as the bias rectifier is connected across the 6.3v. speech amplifier heater line, the bias rectifier has a slight time delay before it commences to give a bias voltage. When the "Mod." switch is closed, and the meter selector switch is placed on "I. Mod.," the meter reads at first about 150 Ma. or higher, but this drops to about 90 Ma. as the bias rectifier warms up.

The final switch (S/R) may be paralleled with an external relay if required, but remember that it carries the full 240v. from the mains. The leads to the relay may need by-passing to avoid radiation from inside the a.c. compartment.

TESTING PROCEDURE

First check that all circuit wiring is complete, and that all tubes are in place in the transmitter and the speech amplifier, but do not insert the 5R4GY rectifier in the modulator power supply until the bias voltage is set.

Open the p.a. h.t. lead to the p.a. compartment at the modulation transformer, leaving the h.t. off the 6146 and its clamp circuit until the driver stages are operating correctly.

Switch on the filament transformer only and check all heaters. If these are all OK, close the p.a. h.t. switch. Place the "C.w.-Ph." selector switch on "Phone," and close the S/R switch. This will place h.t. on the three sections of the signal shifter, the 25 watt lamp which is used as a dropping resistor from 580v. d.c., down to 350v., will be at practically full brilliancy, and the VR150 series dropping resistor can now be adjusted to light the V.R. tube at its correct brilliancy. If possible, open the cathode circuit of the VR tube, insert a d.c. meter, and adjust the series resistance until the tube is drawing about 10 Ma. or 15 Ma. The tube should then take very low current, but will be alight when the final is on load.

Turn the meter selector to "I.G." (grid current to the final) and peak up the tuned circuits in the isolator and the driver stages of the Signal Shifter, on all ranges in turn, to give maximum drive current to the p.a. grid circuit. The procedure is laid down in the instruction sheet given with the Signal Shifter, but if the 40 metre range has been altered as we did in the College transmitter to give better band spread, and to prevent instability when using phone on the 40 metre band, the isolator will be on 80 metres and the drive plate coil can be peaked at about 7100 Kc.

If a reliable frequency meter, such as the Bendix, is available adjust the oscillator as per instructions so that the pointer is correct at the 3500 and 7000 Kc. points on the dial, and if the trimmers are given a final correction at the high frequency end of the dial, the calibrations on the dial will be found to be reasonably correct.

If a Bendix is used, check its crystal against WWVH before saying that the Signal Shifter is sufficiently accurate to mark the band edges. The calibrations will be very close to correct, as the the oscillator has been previously calibrated in the factory, and needs only slight adjustment. The drive on 80 metres will probably be too high, and may need backing off. The drive on all bands, however, will be between 4 and 8 Ma., but this value will, as usual, drop off when the final is taking load.

P.A. TUNING

Connect a 60 watt or a 75 watt lamp as a dummy load at the output terminal of the transmitter. Turn both output and input tuning condensers fully out of mesh. Switch the band selector switches to 10 metres, and tune the oscillator to about 28.2 Mc. on the tuning dial. Re-connect the p.a. h.t. through the modulation transformer to the p.a. stage. The h.t. will now be connected to the p.a. tubes, plate and screen, and to the clamper tube. Leave the modulator switched off or pull out its rectifier; we don't want it as yet. Place the selector on "phone," which saves the trouble of inserting the key in its socket, and closing the key.

Switch on in sequence: Filaments, p.a. h.t., then the S/R switch, and the p.a. plate current should show a reading of 150 Ma. or so. Tune the input meter of the pi-network for a dip, as is usual in tuning a p.a. stage. If there is no point at which a dip is obtained, switch off and read your "A.R." again, pages 2 and 3 of January, 1956, the pi-network tank circuit, by VK7AI. Either you have a 10 metre coil which is one turn too large or too small, or your input tuning condenser has too large a capacity minimum. Try a different sized coil.

With a definite dip on the meter, close the output tuning condenser, re-tuning to the dip at the same time, until output lights the lamp load. Keep increasing the load until the plate input is at 125 Ma., with a single 6146. If you are using two 6146s in parallel, it should be a maximum of 180 Ma., which is the current at 100 watts input. At this stage it is a good idea to check the output frequency with an absorption or other meter, as it is quite possible to tune the output to 56 Mc., or some other unwanted frequency, by an improper setting of the pi-network condensers.

The correct positions should be found and noted, as, if you are doubling in the final, the output will probably be on two bands at the same time; a pi-network is a good suppressor of harmonics, but it is not so good against overtones. Do not use the final as a doubler.

If the tuning is correct, the grid drive will have dropped slightly, but should the tuning be incorrect, the grid drive may increase due to regeneration, and it may be found that the final has a slight tendency to "take-off." Re-adjusting the tuning will take care of this. As a final check, switch from "phone" to "c.w.," insert the key and check the keying in the monitor, and by a check of the plate milliammeter. The input should read practically zero with the key open.

It is recommended that you do not leave the transmitter in the "standby" position by leaving the key open on "c.w." When the transmitter is left in this position, the clamp is in continuous operation, and there is at least 10 watts of power being dissipated in the clamp tube dropping resistance. In plain English, there is a voltage drop of close up to 600 volts across this resistance and the p.a. screened compartments was never intended to enclose a "toaster." Open the S/R switch and save power. The heat during c.w. transmission is intermittent, and is dissipated from the compartment easily during periods of reception.

Repeat the tests on the other ranges —15, 20, 40 and on 80 metre bands. The number of turns on the pi-network coil may need adjustment, depending on the size of your input condenser, but the number of turns given in the article by VK7AI will normally be correct. ("A.R.," January, 1956, page 3.)

MODULATOR ADJUSTMENT

The modulator unit could probably be tested as a separate unit, unless you have built this type of equipment before, and never made an error in wiring! If a separate test is made, remove the p.a. rectifier, unsolder the p.a. h.t. leads on

* 4 De Chair Road, Dee Why, N.S.W.

the secondary of the modulation transformer, and connect across the transformer output a 50 watt 4500 ohm resistance, in series with a 5 watt 100 ohm up to 500 ohm resistance. This resistance provides a convenient point to attach a c.r.o. or to clip in an a.c. milliammeter or a voltmeter.

After a preliminary check of heaters, etc., plug in the 5R4GY and switch on the modulator h.t., with your milliammeter selector on "Mod. Current." The current shown on the meter will be anything from about 10 Ma. up to 200 Ma., since you have not yet adjusted your 6L6 grid bias. Adjust this value from the bias pack by varying the load potentiometer, until the standing current is about 90 Ma., with no input from the microphone. If a relay is used to switch in the driver of the modulators, as in the "2YY" rig, close this circuit with a piece of insulating strip (it has 300 volts d.c. on it) to complete the h.t. circuits, and proceed with a normal amplifier test.

As a reminder of the operating conditions, a pair of 6L6s in Class AB2 on full load will have about 360 volts on the plates, the screens require 270 volts, and the bias should be set, on load, to 22½ volts, negative. The potentiometer should be set, therefore, to give a current input of 90 Ma., with the microphone volume control turned right off, the driver relay closed. At full output, the plate plus the screen current is 220 Ma., giving a plate output of 47 watts, as per valve data book. This is, of course, on the primary of the modulation transformer, and the actual output is much less than this. This is equal to an a.c. output of 390 or 400 volts across the test load resistance, or to a current reading of about 90 Ma. a.c. through the resistance.

If distortion or other signs of overloading are noticed before the full output is obtained, additional dropping resistance may be needed in the h.t. supply to the pre-amplifier stages, or, alternatively, the screen voltages of the first two pentodes can be lowered.

FINAL TEST

Connect up the modulator and the p.a. circuits, insert all rectifier tubes, and check on all bands in turn for output on both modulation and on c.w., into the dummy load, listening in your monitor.

The p.a. meter should be perfectly steady with modulation, and the grid drive should not vary, unless there is over-modulation or unless the p.a. pi-network is improperly tuned. If there is improper tuning, it is easy to get regeneration and an upward shift in the grid current.

Do not test the modulation without a proper load on the p.a., either a lamp or the aerial, otherwise the condensers will arc-over, and you may have a really good burn-out either in the p.a. stage or possibly your p.a. shunt r.f. choke.

The final should now load into either a long wire, or into a co-axial feeder to the aerial tuner. An aerial coupler should be used to assist in harmonic suppression.

NETTING

To place the Signal Shifter on a selected frequency or to measure the frequency of an incoming signal on the receiver, leave the receiver in its normal sensitivity and close the "netting" switch. This takes current for the oscillator only, from the modulator h.t. supply. The oscillator will not be heard in the receiver unless an open wire aerial is connected to the aerial coupler or unless a short wire is passed through the mesh of the screening. A quick monitoring check may be made by switching the receiver to a higher range, and the output from the transmitter should be strong enough to hear at about S4 or S5, but not loud enough to cause feedback, speaker to mike.

Finally, **do not use the final as a doubler.** It is possible to do so, but you will have output on two bands. A pi-network may suppress harmonics, but it has not a sufficient degree of suppression on lower frequencies than that to which the p.a. is tuned. Also, for full t.v.i. proofing, a low-pass filter should be used between the p.a. and the aerial coupler, to avoid any trace of harmonics in your neighbour's 30.5 to 36 Mc. i.f. channel when he buys his "Ultra-ultra" 300 guinea t.v. set.

PORTABLE-MOBILE OPERATION

NEW CONDITIONS

Following prolonged representation to the Amateur Administration, the Federal Executive of the Wireless Institute of Australia is pleased to announce that as from **1st May, 1956,** conditions of operation for Portable-Mobile equipment on frequencies in bands **below** 50 Mc. will be modified.

The conditions as stated in Paragraphs 40-51 of the Handbook for Operators of Amateur Wireless Stations will be varied as to provide for operation of Portable and Mobile equipment as follows:—

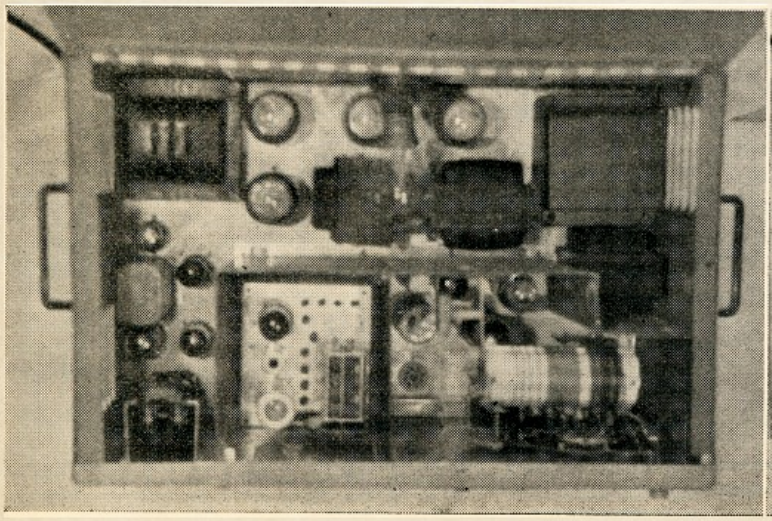
(a) During the absence of a licencee from his usual address for periods up to **24 hours** WITHOUT Departmental approval being required.

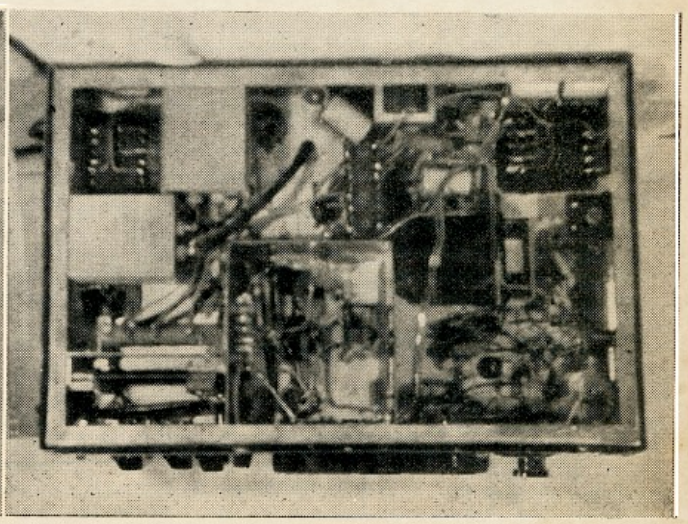
(b) For periods up to three months in any year subject to approval being obtained from the Superintendent, Radio Branch, in the State in which the licencee normally resides.

It must also be noted that as at present the Department is prepared to issue mobile licences to persons whose calling merits granting of same.

Members interested in mobile or portable operation will, under section (a) above be able to operate their equipment on frequencies below 50 Mc. without the necessity of obtaining Departmental approval providing the 24 hour period is complied with.

Believing that this variation of operating conditions will attract many new experimenters to this field, it is suggested that members familiarise themselves with the relevant sections of the Handbook concerning this phase of Amateur activities.





Trail of wreckage left by the 1955 Maitland flood.

Aborigines were Wiser than the Whites

Aborigines were wiser than their white counterparts when it came to settlement in the Hunter River Valley district of New South Wales.

They kept to the surrounding hills — safe from the avalanche of water which they knew could bring sudden death and disaster.

Early in 1955, the worst flood in the history of the white man in Australia swept through the valley, causing privation and misery to thousands of people.

It also cut every form of communication. More than 10,000 subscribers' services and 400 trunk lines and telegraph channels were cut off and it was estimated that the repair bill would total more than £500,000.

Safeguard for The Future. It was a costly lesson, but today science has found a way to reduce this sort of flood damage to a minimum.

A new resin* which permanently seals telephone terminal boxes in a solid waterproof block is being used by the Postmaster General's Department on its services throughout Australia.

SHELL scientists derived this resin from mineral oil to give communications the most effective waterproofing agent yet developed.

**Epikote Resin*

RELAYS

(A Summary of a Technical Lecture* presented by Mr. KEITH MAIN to the South Australian Division)

HISTORY

In 1836, Professor Joseph Henry was faced with a problem. He had been accustomed to calling his students to lectures by means of a network of electric bells, but as the lines between the bells and their source of power grew longer, he was troubled with voltage drop which rendered the whole system somewhat unreliable.

After much thought and experiment, he devised and patented an "electro-magnetic switch" which enabled him to ring the bells without having to bother about voltage drop. This was the earliest known use of a device which now-a-days is universally used, namely, the relay, though he did not call it that.

Samuel Morse, in the U.S.A., was having similar trouble. Using an electro-magnet invented by a Dr. Jackson, he had produced the telegraph "clicker" which worked very well for a while. But telegraph lines were extending as the frontier was pushed further west in the 60's and 70's. As the length of line increased so the initial voltage had to be raised to compensate for the voltage drop of the line.

When the first Atlantic cable was used, the applied voltage was of the order of 2,000 volts: this high d.c. potential was dangerous as well as difficult to handle.

Eventually someone thought of the system used by the famous Pony Express to cover long distances, so instead of a single circuit of perhaps 1,000 miles, an electro-magnet device was used to break the circuit into smaller distances. Since the Pony Express used relays of horses, this new device in the telegraphic services received the name "relay."

All these relays were d.c. devices until about 1925 when the possibility of using a.c. was investigated more thoroughly. From then until the outbreak of World War II., a.c. relays were used in greater numbers, but hostilities and the increasing use of complex equipment pushed forward the development of the d.c. relay to evolve the trouble-free device of present-day use.

CHOICE OF RELAY

When deciding which relay to use in any particular circuit, the average Amateur scrambles through the junk box until he comes up with a relay which has the required number of contacts. If he is lucky, the contacts will be arranged in such a way that they will do the job in hand. If he is very lucky, the relay will work on the voltage available and he has an even chance of winning a lottery! If not, he will set to, re-arrange the contacts and fiddle with the coil until the armature closes with the voltage available, the contacts do what is required and he now has a relay that is just what the doctor ordered. He proceeds then to wire it into the circuit.

The story which follows will tell him some of the things which he doesn't know about relays.

CONTACT MATERIAL

Fine silver (i.e. 99.5% pure) is sometimes used. This is very soft and bruises easily, but can carry heavy currents. Arcing causes bad pitting by melting the metal on one contact and depositing it on the surface of the other leaf. It is not used often, but may be found in special equipment.

Sterling silver and coin silver, both of which have a proportion of copper, are more commonly used, but suffer from the same disadvantages as fine silver. Imperfect mixing of the silver and copper in the alloy can cause very bad pitting and contamination of the surface from the sulphur in the copper may cause sticking contacts.

A mixture of silver and molybdenum or silver and nickel gives a measure of control over the above disadvantages. The molybdenum or nickel as a specially prepared powder is "mixed" with the silver by a process known as "sintering." Thus the molybdenum or nickel particles are separated on the surface by the silver. Hence the impact of the closing contacts is taken by the Mo or Ni particles, which, being hard, do not distort. Since the silver has a high conductivity, the contact resistance is very low. If an arc occurs it is split into a number of smaller arcs of smaller intensity by the Mo or Ni particles, the temperature is not sufficient to melt the silver and there is no transfer of metal. Contaminatoin of the surface is overcome and a better contact is obtained.

Advantages of silver contacts: Heavy duty, do not clinker up, and wear better than others in heavy service.

Tungsten contacts may be used where high temperatures are encountered. Copper contacts are sometimes used as they can be subjected to a harder make and a higher contact pressure can be maintained. However, oxidation is a problem and phosphorus is added to give resilience and protection.

TYPE OF CONTACT AND SERVICE

Seventeen different conditions determine the type of contact; a few being, operating temperature, the load to be carried, frequency of operation, a.c. or d.c. circuits, whether the circuit is inductive or capacitive, current surges, voltage, location, etc.

Dirt on the contact surfaces is probably the greatest problem. A small speck of dust can prevent the contacts from closing properly and various methods are used to prevent this. The 3000 type relay uses domed contacts, which have a high contact pressure over a small area. As the domes contact each other, any dust particles are wiped off (hence self-cleaning). However, the domed types can and do "creep." The constant pounding on the closing of the contacts distorts the contacts in the direction of contact.

In relays having longer contacts than the 3000 type, the contacts are cleaned by the movement of one surface over the other during overtravel. The bottom contact wipes as it travels in its arc. If contacts have to make and break rapidly, spring tension must be light, but overtravel will still wipe the surfaces clean. The wiping action also overcomes any oxide film which may have formed on the surfaces.

RATING OF CONTACTS

A direct current circuit is the hardest to design contacts for. The full potential is across the contacts at all times and consequently the full current has to be broken. When an arc commences it is hard to quench.

In an a.c. circuit, the potential varies, even to zero and the arc is thus self-quenching.

The current carried by the contacts is restricted by the carrying capacity of the leaves and pigtails. In the d.c. circuit, even though the contact area is sufficient and the current is within the ratings of the pigtails and leaves, the arc on break will determine the maximum current allowable. The wattage must not be exceeded. Roughly, if the voltage is doubled (if the gap permits), it is better to reduce the current to a third for safety.

METHODS OF CONTROLLING ARCS

As the damage caused by arcing is dependent on the heat generated, the object is to reduce arc heating time to a minimum.

1. By using a "snap" break. The object is to get the contacts past the point at which the arc can be maintained, in the shortest possible time. "Snap" action is noisy and causes excessive wear at the hinge due to the strong spring required.

2. By using a double break, either a double pole or a single pole double break. Sometimes parallel contacts are used. The double break type is effectively two sets of contacts, separated by a distance, both of which open simultaneously, being actuated by the same solenoid. The parallel contacts are those usually seen on 3000 type relays, i.e. two sets of contacts on the same leaf. The two sets never contact or break simultaneously and they "bounce" to even out the loading if the relay is fast enough.

3. The "blow-out" quenches the arc by using a magnetic field, either from a coil or a permanent magnet. The field of the coil or magnet is directed across the contacts so that it repels the arc away from the points. The coil type may be used on either a.c. or d.c., but the permanent magnet is restricted to d.c. circuits as the polarity of the magnet remains the same. This method is particularly effective for severe arcing on d.c. circuits.

COIL DESIGN

When designing or rewinding a relay solenoid, the important thing to watch is the ampere-turns product. It is not possible to reduce the number of turns to accommodate a lower voltage with-

* Lecture summarised by B. W. Austin (VK5CA) from technical lecture given by Mr. Keith Main, the South Australian representative of Lorimier Contacts Pty. Ltd., Melbourne.

out losing efficiency. If the operating voltage must be reduced (i.e. the supply is lower than the rating of the solenoid) then use a smaller gauge of wire and put on more turns. The ampere-turns must remain the same (or as near to as possible) the original winding. If one gauge smaller is used when rewinding, then remember that the resistance for an equal length will be 1.59 times greater. Two gauges increase the resistance by 2.62 times.

With a.c. operated relays, in addition to the resistance of the wire, the inductance of the solenoid introduces a reactive component. There are internal heat losses and self inductance gives a power-factor lag.

However, the a.c. relay works over a wider range of voltages than the d.c. type. A 230 volt relay will operate between 200v. a.c. and the upper limit likely to be experienced due to line fluctuations.

If using two a.c. relays in series, one lightly loaded (by spring and/or contacts) and the other heavily, the lightly loaded relay will often slap in before the other and act as a choke. This may prevent the second relay from closing. The remedy is to use a smaller travel on the heavily loaded relay so that both will close together. Relays required to have positive fast action (e.g. a safety switch) may have a low voltage coil. The higher voltage will be safe as long as the duty cycle is short.

OIL IMMERSED RELAYS

These are used where heat caused by high currents creates difficulties, or where arcing is a problem. All leads must be cambric covered. Rubber insulation must not be used because the sulphur contained in the rubber would be transferred to the contacts. The oil dissipates the heat, and quenches arcs and thus maintains the temper of the leaves. Transformer oil must be used and the whole unit must be sealed to exclude moisture.

SPECIAL RELAYS

Delayed Action Types

Slug: The copper slug forms a secondary winding and the induced flux opposes the original flux, delaying both make and break. Delays up to 0.5 second can be obtained and may be adjusted by the screw on the top and by varying the load, i.e. the number of leaves. The copper slug may be at the heel or the toe of the relay, varying either the make or the break, and its size determines the period of the delay (from 33 to 500 milliseconds).

Inertia: This is non-magnetic and is achieved by weights and the mounting position of the relay.

Mercury: A copillary thread of mercury flows on tilting the reservoir at a rate depending on the diameter and angle of tilt. Delays up to five minutes can be achieved.

Hot Wire: Current passing through a bi-metal strip causes expansion and closing of the circuit. The ambient temperature will vary the closing time.

Inverted Resistance: As a current passes through carbon generating heat, the resistance drops and a point is reached when the increased current closes the armature of the relay. This is very critical and is affected by ambient temperatures.

Motor: This uses a self-starting motor which operates a cam making or breaking the contacts. To alter the time delay either the motor speed or the gearing has to be changed.

GENERAL

Maximum operating currents of contacts for general usage relays:—

Silver	300 Ma.
Platinum	1000 Ma.
Heavy duty (large)	5 Amp.

The 3000 type relay generally has a 4 watt coil (operating rating). Up to 16 making contacts may be had on one 3000 type relay.

It is far more satisfactory to design the circuit first and then get a relay which will do the job, than to start with a relay and design the circuit around it.

Relays are cheap!

INTRUDERS

Official monitoring stations of several signatory nations of the Atlantic City Convention send regular reports of intercepts to the International Frequency Registration Board at I.T.U. Headquarters in Geneva.

The list below shows pertinent portions of the I.F.R.B. report for the period November, 1954, to July, 1955.

If members find that these stations are **interfering** with their transmission, they are requested to send details to Federal Executive (Federal Secretary, Box 2611W, G.P.O., Melbourne). Information should include date-time, frequency, type of transmission, etc., so that it can be consolidated and correlated for further action.

Station	Type of Operation	Freq. (Kc.)
Mozambique	Broadcast	3570
Russia	Broadcast	3760
Iran	Broadcast	3758, 3775, 3778, 3785
PM2, PM7	Manual A1	7000
Russia	Broadcast	7001, 7020, 7025, 7030, 7035
Spain	Broadcast	7003, 7018, 7085, 7087, 7090
Pakistan	Broadcast	7009
OWM (No. Korea)	A1 Press	7016
Greece	Broadcast	7032, 7034, 7040, 7045, 7080, 7082
Fren. Oceania	Broadcast	7025
Egypt	Broadcast	7040, 7045, 7050, 7055
France	Broadcast	7040, 7045, 7048
EAU	Auto. A1	7055
¥ED	Manual A1	7058
India	Broadcast	7065
It. Somaliland	Broadcast	7072
Iraq	Broadcast	7078
Turkey	Broadcast	7035, 7081,
YEE	Manual A1	7084
Tangiers	Broadcast	7090, 7100
ZAG	Auto. A1	7092
ORO	Auto. A1	7094
Saudi Arabia	Broadcast	7094
Indonesia	Broadcast	7098
Voice of America	Broadcast	7100
GFN	Spec. Auto.	14001
PYK	A-1	14015
ZFP	Auto. A1	14015
CBR	Manual A1	14019
RAC	Auto. A1	14028, 14039
HB1	Manual A1	14034
FOD	Auto. A1	14041
GEP	Auto. A1	14043
G3H8	Auto. A1	14057
UPL	Manual A1	14062
DL3	Auto. A1	14062
OMZ	Auto. A1	14069
PRP	A-2	14117
DCP	Auto. A1	14132
WWC45	Auto. A1	14165
ZAG	Auto. A1	14173, 14178
LCP	Auto. A1	14255
Russia	Broadcast	14270
BCW	Auto. A1	14284
OLU	Auto. A1	21000.2
ZQD	Auto. A1	21013
CML	Auto. A1	21724
RZA	A-1	21319
DGS	Auto. A1	21350
ZLP	Auto. A1	21405

Note.—The Voice of America station is reported to have ceased operation on 7100 Kc. If VOA is heard again in 7000-7100 Kc., please notify Headquarters.

CONTEST RESULTS

NATIONAL FIELD DAY, 1956

OUTRIGHT WINNERS

C.W. Section: VK7LJ (operators—L. R. Jensen, VK7LJ; K. E. Millin, VK7KA); score, 80 points.

Phone Section: VK4TN (operator—A. Harris, VK4TN); score, 188 points.

Open Section: VK2AQJ (operators—K. B. Pounsett, VK2AQJ; S. E. Brown, VK2ASB); score, 197 points.

STATE WINNERS

C.W. Section

New South Wales: VK2ARZ (operator, M. R. B. Riley); score, 48 points.

Victoria: VK3ADW (operator, D. A. Wardlaw); score, 25 points.

No entries from VK4, VK5, VK6, VK7, or VK9.

Phone Section

New South Wales: VK2WI (operators, D. J. Pollard, VK2ASW; S. Bourke, VK2EL); score 123 points.

Victoria: VK3ADW (operator, D. A. Wardlaw); score 134 points.

Tasmania: VK7JO (operator, J. G. Oliver); score, 101 points.

No entries from VK4, VK5, VK6, or VK9.

Open Section

Victoria: VK3ZM (operators, H. D. Nihill, VK3ZM; D. McKenzie, VK3ALQ); score, 185 points.

Tasmania: VK7JO (operator, J. G. Oliver); score 103 points.

No entries from VK2, VK4, VK5, VK6 or VK9.

Fixed Station Section

New South Wales: VK2ZS (operator, W. J. Smith); score 44 points.

Victoria: VK3YS (operator, F. G. Bail); score, 90 points.

South Australia: VK5AB (operator, B. C. Jellett); score, 100 points.

No entries from VK4, VK6, VK7 or VK9.

LISTENERS' AWARD

N. G. Clarke, score 144 points.

LOGS RECEIVED

The following stations submitted logs:

C.W. Section

	Pts.
VK7LJ	80
VK2ARZ	48
VK2WI	46
VK3ADW	25

Phone Section

	Pts.
VK4TN	188
VK3ADW	134
VK3LN	125
VK2WI	123
VK3GE	119
VK2XU	105
VK2RS	103
VK2AJO	102
VK7JO	101
VK3TF	72
VK3AUC	71
VK2ARZ	23
VK2AHA	check

Open Section

	Pts.
VK2AQJ	197
VK3ZM	185
VK2WI	169
VK3ADW	159
VK3GE	130
VK7JO	103
VK2RS	103
VK2ARZ	48

Fixed Station

	Pts.
VK5AB	100
VK3YS	90
VK2ZS	44
VK3XB	42
VK3OJ	35
VK3ARJ	34
VK5XU	20
VK2PN	15
VK3ZAQ	10

Listener

	Pts.
N. G. Clarke	144

ROSS HULL MEMORIAL V.H.F., 1955-56

OUTRIGHT WINNER AND TROPHY WINNER

VK3GM (operator, G. R. McCulloch); score, 969 points.

Call Area Awards

VK2ABC (operator, F. J. Stirk); score, 303 pts. VK2ZAA (operator, R. K. Dodd); score, 38 pts.

VK3GM (operator, G. R. McCulloch); score, 969 pts. VK3ZAE (operator, R. J. Elliott); score, 780 pts.

VK4NG (operator, R. H. Greenwood); score, 324 pts.

VK5RO (operator, C. A. Moore); score, 669 pts. VK5ZAW (operator, N. C. White); score, 230 pts.

VK6WG (operator, W. W. Green); score, 130 pts. VK6ZAV (operator, D. F. M. Brown); score, 243 pts.

VK7LZ (operator, C. P. Wright); score, 356 pts.

In addition Logs were received from:

	Pts.		Pts.
VK2HE	127	VK3ZBS	237
VK3ZL	874	VK3AWS	check
VK3YS	491	VK3OJ	check
VK3ZD	268	VK3AGV	check
VK3TY	146	VK4WD	139
VK3VF	138	VK4LK	check
VK3BH	110	VK5BC	576
VK3ZAQ	578	VK5QR	419
VK3ZBE	482	VK5ZAA	97
VK3ZAZ	453	VK6ZAA/M	224
		VK7PF	180

HINTS AND KINKS

FINISHING TEST INSTRUMENT PANELS

A very fine and workman-like finish can be made with panels for test instruments, etc., by first cleaning the aluminium panel with some steel wool and spraying (a fly spray is excellent for the job) with clear varnish as used for coating charcoal and pencil sketches. This varnish can be obtained from most stores dealing in artists' colours and oils.

Another good clear coating (which the writer prefers) is ordinary clear nail lacquer. This can be brushed on with a fine camel hair brush or even the small brush that comes with the bottle. It leaves a very clear and durable finish.

If prior to varnishing, the panel is drilled and lettering done with black Indian ink, a quite professional job results and the coat of lacquer protects the ink from cracking or being rubbed off.—VK3SZ (reprinted from "A.R.," Jan. 1946).

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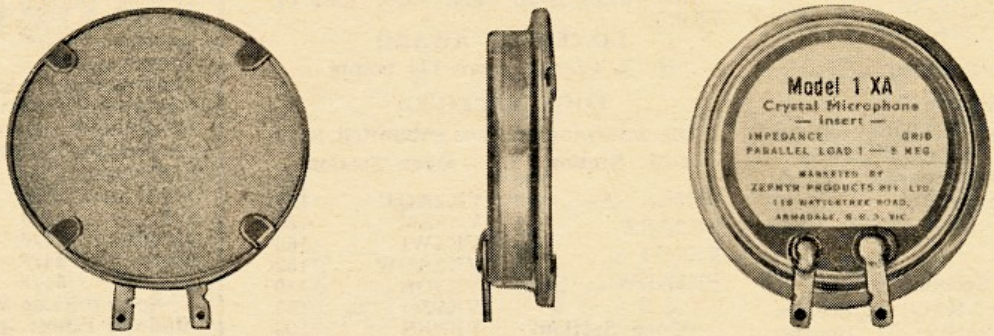

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TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars, being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case 1½" diameter (rear), $\frac{3}{8}$" thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
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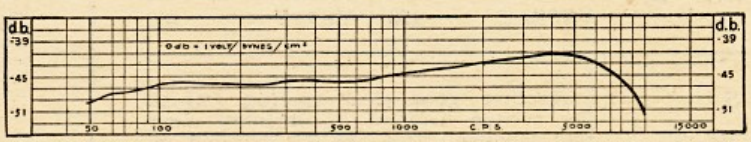
Impedance = Model 1XA Grid 1 — 5 megohms.



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North Coast and Tablelands Zone (VK2) Convention

Urunga, Easter, 1956

The Eighth Annual Urunga Convention is now history and many pleasant memories will be lingering for some time to come.

Many enjoyable hours were spent by a gathering of 27 Amateurs, 13 associates, and 15 ladies, together with numerous junior ops. Some enjoyed the scenic beauty of the district, others the contests, some the famous jacaranda juice, whilst everyone rejoiced in reunion with old friends and embraced the opportunity of meeting the "bloke" they have often heard or QSOed. Speaking of re-unions, it was like old times to have Crieff Retallick, VK2XO, and XYL Jean among those present. Crieff, of course, was the original founder and organiser for several years before he was reluctantly compelled to relax for health reasons and it was indeed good to have you with us Crieff. If my guess is correct, it won't be long before Crieff will be on 40 mx earbashing you all about Urunga 1957!

Many of our visitors were from Interstate, most of them on a second visit, whilst Jim (Don Pedro) 4PR has been coming for several years. John 4FP was apparently lost without his beloved Bulimba brew, but reckons on cleaning up the 40 mx events next year using a portable pair of 813s, whilst Don 3ALQ is seriously considering a 2 mx "sniffer outer."

The weather was kind to the Convention and did not interfere with the various activities.

Many stories can be told of the Convention, but the crowning glory of all is on Chick 2DK, of Narrabri. Next time you hear Chick be sure to ask him how he managed to reduce the load on his Clapp oscillator to restore stability? I presume that Chick knows what to do if he gets in the dog-house, but if not, just ask Rod 2ACU—he's sure to know.

An informal discussion group was held on the Friday night with the N.S.W. Division President, Jim 2YC, as a real target and source of information. Topics discussed covered emergency operations, home for VK2WI, schemes for improving W.I.A. finance and several other problems introduced by the boys. This discussion group has now become a part of the Convention, so if you have a topic you would like discussed, write to me so that I can prepare an agenda, but remember you must be there to commence the discussion.

Telegrams wishing the Convention every success were received from the Federal Secretary, Doug 3DU, and Mrs. Bowie, Ted 2AVG and Peter 2PA. Apologies too numerous to mention were received also.

Registration took place on the Saturday morning and a list of those who registered is given below:

VKs 2XT, 2AAB, 2AWQ, 2ABP and XYL, 2AOR and family, 2ZBA, 4PR, 4FP, 2AHH, 2ABU, 2ACU, 2AHA and family, 2DK, 4HR and XYL, 4TN, 3ALQ and son, 3AID, 2AHK and XYL, 2YC, 2APS and family, 2ASW, 2PY, 2AWG, 2XO and XYL, 2ADT and family, 2AJF, 2ADN and family, Associate Members Snow McAuley, Ray James, Bob Bailey and XYL, Norm Dash, Norm Moody and XYL, Harry Miller and XYL, Norm Burton, Bill Clarke and XYL, Brian Starke, Fred Reed, Les Wilson and XYL, Jim McIntosh, Ray Hogan, and A. Yelds.

The results of the various competitions is given below, but history must surely have been made as each event was won by the same contestant, and not to be outdone in any department, he drew the lucky registration number as well! This, however, was re-drawn and the prize went to a young associate member.

Gerry Challender Memorial Contest on 40 metres for portable or mobile equipment not operated from a town supply: 1st, VK2AHH, 71 pts.; 2nd, VK2ASW, 59 pts.; 3rd, VK3ALQ, 47 pts.

144 Mc. Hidden Transmitter Hunt: 1st, VK2AHH, in 50 minutes; 2nd, Fred Reed (Assoc.), 51 min.

Urunga Scramble: Any band, any power from any source: 1st, VK2AHH, 35 contacts; 2nd, VK2XT, 33 contacts; 3rd, VK2ADT and VK2ASW drew with 28 contacts.

Best Miles Per Watt in the Scramble: VK2ASW, who worked VK3LR on 9w.

Gents' Registration No.: Brian Starke (Assoc.).

Ladies' Registration No.: Mrs. Les Sparke (XYL of VK2AOR).

A very enjoyable evening was had on Easter Saturday when Crieff and Jean Retallick made their "Do-Me" shack available to the gathering for a film evening which was followed later by the discharge of an 18 uF. Tank Capacity (hic! beg pardon, capacitor). Ted Hamey once again was the projectionist and he showed some interesting films on Atomic Power Houses, the development of the modern jet engine from 1926, together with inevitable funnies. We all thank you Ted for a grand show. Several of the boys exhibited colored slides which were really worth while viewing. Crieff showed shots of the Bellinger River scenery and many from his trip to Tasmania. Ken 2PY screened views from previous Urunga Conventions, whilst Errol 2AHK featured views of his wedding and honeymoon trip. We all had a grand evening and we thank you Crieff and Jean for having us at your place.

The prize giving function was held in the form of a concert in the School of Arts Hall. Jack 2ADN arranged the programme and I'm sure it was enjoyed by all, especially by the Davy Crocketts in the front row.

The antics of Vic Hardacre (and how he can wobble it) and Lindsay Cox are something that you have to see for yourself. Jack Gerard, aided by his famous doll, George, provided the company with laughs and some clever character impersonations. Three lovely little ladies including Janice and Lynette Hardacre skilfully presented tap dances and were most attractively dressed in keeping with their dances. Our sincere thanks go out to our artists for their excellent performances and to Jack 2ADN for his arrangement of the entertainment, both on Saturday and Sunday evenings.

At the conclusion of the concert, the Urunga Progress Association treated the Convention to supper and we all heartily thank them for their hospitality. After supper a lucky dip was passed around and those present received a useful parcel of resistors. Abe 2ABU then auctioned off a large box of assorted tubes and a modulated oscillator. Next year it is hoped that the range can be increased as this item was most enthusiastically received. Thanks Abe for a job well done.

Due acknowledgment and thanks must be given to all those who helped in the running of the Convention, and also to the radio and electrical houses of Australian Electrical Industries, United Radio Distributors and Amalgamated Wireless A/sia Ltd. for the generous donation of competition prizes. The N.S.W. Division Disposals Committee also aided in providing several items of equipment for competition winners.

The Convention for 1957 has the appearance of being a "super" show as offers of extra help from "new blood" have been made and the wheels will soon turn to co-ordinate this help. If you have attended a convention before, let me have your ideas so that the committee can do their best to give you the kind of convention you would like. If you have not attended before, watch these pages for information, but set aside the 1957 Easter Week-end NOW and bring the YL or YF with you where she can have a real holiday from home whilst you can meet all the boys and ragchew in pleasant conditions without QRM.

Remember Easter 1957—its on again!

—N. A. Hanson, VK2AHH, Zone Officer.

SUBSCRIPTIONS

● Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

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Power Pack Manual .. **6/9**
Magnetic Tape Recorder **5/3**
The Electronic Photographic Speed Lamp; how to make and use it .. **5/3**
The Master Colour Code Index for Radio and Television .. **2/3**
The Emperor Radiogram .. **5/3**
How to make Aerials for Television .. **3/9**
Reactance Freq. Chart, **2/3**
Amplifier Manual No. 3, **5/3**
International Radio Tube Encyclopaedia, .. **£3/3/-**
Postage 6d. extra.

SPECIAL! SPECIAL! FOR THE RADIO MINDED AMATEUR
SENSATIONAL OFFER—MIDGET AMPLIFIER

"MEDRESCO" HEARING AIDS, as supplied by the British Government under the National Health Act.

The radio-minded Amateur will quickly see the possibilities of converting this unit into many interesting devices, such as Miniature Radio Receiver, Model Control Equipment, Baby Alarm, Pre-Amplifier, Inter Com. Telephone, etc., in addition to its original application.

This unit is supplied with a circuit describing the conversion of the first stage into a Receiver with two stages of amplification, which would make this unit capable of receiving transmissions on the broadcast band.

Operates from standard miniature hearing aid batteries.

PRICE: £3/19/6 less crystal mike.

Crystal Mike Inserts, very sensitive, high output, **19/6.**

Postage and Packing: 3/6. Interstate: 5/-.

English Walkie Talkie Wireless Set 38 Mk. 2

The ideal person to person communications set. Working range of approx. two miles, set-to-set, on a vertical rod aerial, or ten miles approx. working from a good receiver and a high-powered transmitter.

Frequency coverage of 7.2 to 9.2 Mc., which can be modified, if required. to change the frequency.

Contains five valves: 1—ATP4, 4—ARP12. Operates from 3v. and 120v. batteries. Complete with Microphone, Headset and 4 ft. Aerial Section.

Price: less Batteries, **£9/10/-.**

Plus 5/- pack. & delivery to railhead.

● **GENEMOTORS**, brand new, American made. Type B-9-1 Genemotors. Input, 18½v. at 3.5a.; Output, 400v. at 0.080a.; Continuous duty; 4,200 r.p.m. Fitted with in-built fan and filter. **Price: £3/10/-** each.

● **SHUNT MOTORS**, brand new. Made in Oster, U.S.A. 27½v. d.c.; 5,600 r.p.m. Built in aluminium casing. Fitted with gear reduction. **Price: £5/10/-** each.

● SOCKETS, miniature ceramic 7-pin, with shield. **Price: Six for 20/-** post free, or **4/6** each.

VOLTS, AMPS. AND MAN

MAN'S CONTACT WITH HIS ELECTRICAL ENVIRONMENT

PART TWO

BY ROBERT H. BLACK,* M.D.

MAN'S ACCIDENTAL CONTACT WITH INDUSTRIAL ELECTRICITY

Judicial electrocution and electro-convulsive treatment have demonstrated the two extremes of the application of electricity to the human body: the one a deliberate obliteration of life and the other the administration of a safe dosage to produce a desired effect. In both of these cases conditions are under strict control. This is not the case in accidental contact with industrial electricity supplies. The effects of such contacts vary considerably, ranging from the familiar unpleasant bump to a fatal result.

In Australia, during the five-year period from 1946 to 1950, electricity (lightning excepted) killed 226 males and 31 females and the commonest age for dying in this fashion was 20-29 years. This is approximately one quarter of the number of deaths due to poliomyelitis which occurred in the same period—and poliomyelitis was epidemic during some of this time.

Probably the first death from accidental contact with industrial electricity occurred in 1879, although currents powerful enough to have caused death were employed to light the operatic stage in Paris (at the first performance of Meyerbeer's "Le Prophete") as early as 1849, and English lighthouses in 1857. In the year 1879 a stage carpenter was killed at Lyon by the alternating current of a Siemen's dynamo which was developing about 250 volts at the time. The first death in England occurred in 1880 when a handsman short-circuited a powerful electric battery. Since then the number of deaths from electricity has steadily increased as the use of electricity has extended.

As it is obviously impossible to experiment on man with electric currents to determine what amounts are lethal under various conditions, conclusions have to be drawn from a survey of the circumstances involved in accidental contacts as they occur. This approach permits some general conclusions to be drawn.

The type of contact with the conductor is one of the most important factors in determining the result of this contact. The dry skin offers marked resistance to the passage of electrical currents. This has been variously reported as being 8,000 to 40,000 ohms, but when the skin is damp the resistance may drop as low as 500 ohms. When the contact is bad 100 volts may be innocuous but the same pressure may be sufficient to cause death when the contact is good. The point being that, for a given voltage, it is the value of the current which is important.

Voltages as low as 46 have caused accidental death, and voltages of 110-117 have often caused fatal accidents. On the other hand recovery has taken place after contact with 500 volts, and very many people have survived contact with 240 volts. A case is recorded where 750 milliamps. at 4,500 volts passed for several minutes through a man from hand to hand and the victim recovered after prolonged artificial respiration. Another recovered after 20,000 volts passed through him to a dry concrete floor.

Although there has been some disagreement on the subject it is now considered that direct current is safer than 50 cycle alternating current. With alternating currents of 50 cycles perception begins when about 2 milliamps. are flowing through the body and currents of 20 milliamps. are intolerable to many subjects. Alternations of 50 cycles per second are very efficient in causing tetanic spasm of muscles. If the frequency is greatly increased, say to 1 megacycle/second, nerve response cannot keep pace and the subject may experience nothing more than warmth. Accidental contact with high frequency conductors may result in serious burns. Direct currents, after the painful initial contact, can be tolerated up to appreciable values without discomfort.

The parts of the body through which the current passes is of importance. If the circuit is confined to a part of a limb burning only may result, whereas if it passes between the hands or between head and feet vital centres of the body are traversed and the current may affect the brain or the heart. Thus a child on a dry floor bit through some flex and was merely burned.

Other factors which may affect the outcome of the accidental contact are the duration of the contact, the amount of current available at the source, and the state of health of the victim.

Death from accidental electric shock may be due to the current paralysing a centre in the brain which controls breathing, or to its action on the heart where it disorganises the regular beat and causes an irregular and widespread twitching of the heart muscle and cessation of its pumping action; or it may cause both of these.

In non-fatal shocks temporary deafness may occur and the victim cannot hear his cries for help. Electricians who sustain minor shocks speak of "moons" which they see as luminous circles. These are commonest when the head is included in the circuit and are characteristic of headphone shocks. Consciousness may be lost or retained; if it is lost there may be loss of memory for recent events as with lightning stroke. Burns of varying degrees may occur and some of these are severe. There is a great individual variation in the susceptibility to shock, but there is no evidence that increased tolerance occurs with repeated shocks; on the contrary the opposite seems to be the case if one can apply the results of experiments on animals.

FIRST AID TREATMENT

Before proceeding to preventive measures the first aid treatment of electric shock should be mentioned. The current should be switched off. If this is not possible the victim should be removed from contact with the source, care being taken that the rescuer does not become a second victim by protecting his hands with some insulating material such as several thicknesses of dry cloth or rubber gloves. Then artificial respiration should be applied, meantime summoning medical assistance.

PREVENTIVE MEASURES

In the United Kingdom 36% of industrial fatalities from electrical accidents are due to the use of electrical hand-tools. Here the contact is over a relatively large area, the skin is often moist and the alternating current causes the muscles to hold the handle in a tight grip. The common safeguard is to earth the metal framework of the tool so that if a defect occurs in the insulation the leak current passes along the earth wire and the surge of this current should blow the fuse. This is what happens when things go according to plan, but it is obvious, from the number of deaths that occur, that either the safeguard of earthing is not always carried out or that it has been ineffective.

Apart from wilful neglect the common reason for omitting an earth connection is that there is no three-way socket where the use of the apparatus is required and a two-wire patch cord is plugged into a lamp socket. The apparatus still works but the safeguard has been removed. Uncertainty as to the use of the third wire in three core flex often results in its being tucked out of the way inside the lamp holder. If this wire touches the live terminal the portable apparatus becomes "live." The earth wire may pull out of its terminal or it may break. A test set is easily installed to test if the tool is earthed at the socket by using a small bulb and battery and a test point to touch with the tool.

However a third or earthed wire going to the outlet socket is not a guarantee of safety as the earth return lead beyond the socket may be faulty or the method of earthing to the mass of earth may be ineffective. Unless there is periodic testing of the continuity resistance there can be no assurance that it is satisfactory and affords the necessary safeguard against shock.

The most satisfactory method of safeguarding users of portable electric equipment is by the use of low voltage, for example, 55 volt transformers with the centre-tap earthed.

The Standards Association of Australia has produced a pamphlet of especial interest in regard to safety measures associated with radio equipment. This is the S.A.A. Radio Code of

1937. A copy should be owned, and read, by all concerned in the construction and use of radio equipment and the specifications should be followed to reduce the risk of electrical accident.

Electrical accidents have not increased in proportion to the amount of electricity used. Various factors have played their part in achieving this fortunate state of affairs, especially the efforts made within the electrical industry to maintain good standards of safety. Looking at the occupational categories in which electrical accidents occur it is found that electricians and electrical fitters sustain the largest number of accidents. Many of the accidents are avoidable in the sense that risk is taken, either knowingly or because of under-estimating the consequences, and thus a good deal of importance attaches to initial training and the supervision of work. Accidents result from over-confidence, inexperience and sometimes carelessness.

Education, therefore, must play a large part in the prevention of electrical accidents. This applies not only to the users of electrical supplies and equipment, but also to those who manufacture and install them. Instruction in the dangers of electricity should commence in childhood, but the holes for the plug in an electrical socket should be so constructed that the inquisitive child cannot poke his fingers in them to see if the current is on.

Electricity is an extremely useful tool but, as with all tools, one must learn to use it properly; it is a powerful tool and careless use can result, not in a bruised thumb or a cut finger, but in death.

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A CHEAP AND EFFECTIVE "S" METER

BY J. G. OLIVER,* VK7JO

Once you have used an "S" meter on your receiver you will wonder how you ever managed without one. Here is a cheap way of making a very effective direct reading meter.

Firstly, find that burnt out r.f. ammeter that is lying at the bottom of the junk box, or if you have to, purchase one for a few shillings at the disposals stores. Remove the case and scale plate; this should expose the screws that hold the movement to the bakelite base, undo these and unsolder the thermo-couple, resoldering the leads from the meter coil direct to the terminals on the back.

Most likely the meter will have two plugs instead of terminals; these should be removed and replaced by two terminals. The movement can now be screwed back on to the base.

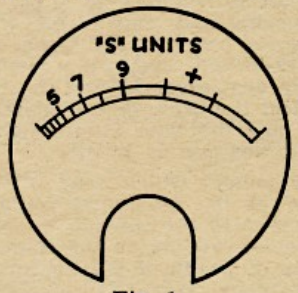


Fig. 1.

Before the dial plate is replaced remove the lettering and scale reading with metal polish, being careful to leave the actual scale itself, then with Indian ink print on the "S" units, making "S9" about one-third of the scale as shown in Fig. 1. The scale can now be replaced and the meter put back into its case.

Now for the wiring in the set. This is very simple, the meter being connected in the h.t. supply to the i.f. amplifier valve as shown in Fig. 2.

The values shown on the wiring diagram are those used by the writer, but to find values suitable for any set connect a 20,000 ohm variable resistance, as shown by the dotted lines, and adjust this until the meter reads zero, the value can then be read by an ohmmeter and a fixed resistance substituted.

The meter must be connected the right way round, and this can be found by experiment. With regard to "Rs," this was wound with a bit of resistance wire and adjusted so that what was considered an "S9" signal gave a reading of 9 on the scale.

It was found that these meters have very poor damping, but the inclusion of "Rs" made the meter give a steady reading and also prevented damage when the i.f. gain control was turned right off.

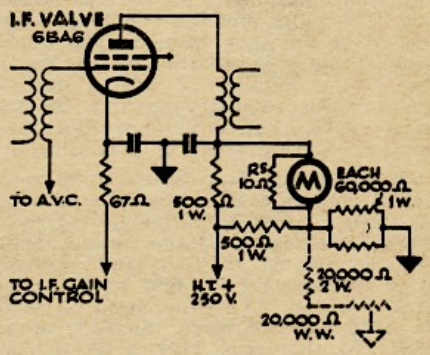


Fig. 2.

* Latrobe, Tasmania.

WHAT DO YOU THINK?

You have no doubt noticed that pages 3, 4, 21, and 22 are printed on better class paper. We would draw your attention to the quality of the reproductions on the above-mentioned pages. May we suggest you compare the detail in the "2YY" Transmitter on page 3 of last month's issue with that on page 3 of this issue.

Would you like to see the whole of the magazine printed on this class of paper? Naturally this would increase the cost of production. Your magazine would therefore cost you more.

We think the extra would be warranted—what do you think about it?

Discuss this amongst yourselves and at your meetings.

—Publications Committee.

AMATEUR CALL SIGNS

FOR MONTH OF FEBRUARY, 1956

NEW CALL SIGNS

VK— **New South Wales**

2DS—G. H. Diedrichs, Eureka Park, Avoca, Mossvale.
2EB—R. J. Bews, 71 Hills St., Tamworth.
2IN—R. C. Meadows, 91 Blaxland Rd., Rhodes.
2TO—L. G. England, 112 Dawson St., Lismore.
2ZZ—T. F. Pike, in lieu of 2ATP.
2ZBE—R. C. Prout, 9 Agnes St., Mayfield, Newcastle.

Victoria

3CF—L. Sebire, Delancey Rd., Wandin North.
3CN—L. G. Walters, 7 Howell St., Moorabbin, S.20.
3DW—K. R. Cakebread, 45 Barrier St., Benalla.
3SP—G. S. Spong, 377 Upper Heidelberg Rd., Ivanhoe, N.21.
3ARN—C. W. H. Rasmussen, 242 Bernard St., Cheltenham, S.22.

3ZCA—R. J. Skevington, 53 Grange Rd., Toorak.
3ZDG—I. DeG. MacMillan, 8 Hamlyn St., Essendon.
3ZDJ—D. G. G. Johns, Johansons Rd., South Warrandyte.

Queensland

4DD—J. Rooks, 37 Henry St., Townsville.

South Australia

5FR—W. R. Franzi, 7 Short St., Dacosta Park.
5ZAF—D. G. Pfeiffer, 326 Marion Rd., Plympton.
5ZBD—C. Taylor, 157 Hill St., Nth. Adelaide.

Tasmania

7ZAW—P. Woodruff, Beauty Point.

CHANGES OF ADDRESS

VK— **New South Wales**

2EY—J. P. Meehan, C/o. Sgt's. Mess, R.A.A.F. Station, Canberra.
2GE—M. G. Datson, 35 Malton Rd., Epping.
2II—M. J. Moore, Stonehaven Ave., Dubbo.
2JD—J. Davis, Elizabeth Cres., Newport.
2LE—F. H. S. Lee, 76 Round Drive, Avoca Beach, via Gosford.
2NQ—N. S. Piermont, Lot D, Loftus Ave., Loftus Heights.
VK2QR—J. E. R. Burstall, Wondeer Ave., Beecroft.
2TW—G. C. Smith, 20 Colin St., Cammeray.
2YJ—C. W. Johnson, Box 625, P.O. Newcastle.
2ACV—A. G. Mulcahy, 59 Riverview Ave., Kyle Bay.
2AHK—A. E. Clark, 15 Rous St., Kyogle.
2AIK—C. T. Horne, 1 Excelsior Rd., Cronulla.
2ALG—J. A. Ackerman, "Idlewild," 77 Bourke St., North Parramatta.
2APB—K. H. Branford, 8 Pitt St., Coffs Harbour.
2APJ—A. G. Simmonds, 118 Gannons Rd., Caringbah.
2ATB—F. R. Gale, 3 Lambert St., Cammeray.
2AUR—G. V. Randall, 45 Bellevue St., Chatswood.
2AVL—C. F. Luck, 20 Yathong Rd., Caringbah.

Victoria

3JV—A. C. Knight, 8 O'Malley Cres., Dandenong North.
3MQ—J. A. Cusick, Lot 49, Great Ryrie St., Heathmont.
3NT—J. R. Agnew, 58 Shepherd St., Surrey Hills.
3NZ—R. H. Hall, 3 Eden Court, Toorak.
3WQ—G. C. Chirnside, 8 Clendon Rd., Armadale.
3ADA—J. B. Jarman, L.A.C. A11466, R.A.A.F., Ballarat.
3AKJ—J. B. Battrick, Bayview Rd. (off Yuille St.), Frankston.
3AMZ—B. G. Powell, St. Columba's Hall, Murdoch St., Wangaratta.

Queensland

4AX—H. R. Denby, 40 O'Keefe St., Cairns.
4CJ—C. W. Marley, Richardson Rd., Park Ave., Rockhampton.
4CM—T. M. B. Elliott, "Kelso," Wickham Tce., Brisbane.
4EL—E. J. Lake, National Radio Station 4QN, Clevedon.
4FB—F. S. Beech, 315 George St., Brisbane.
4MA—A. E. Morrison, C/o. State School, Mt. Garnett.
4MV—J. R. McVinish, 26 Newman Ave., Camp Hill, Brisbane.
4RI—R. H. Gordon, 26 Lockhart St., Garbutt, Townsville.
4SD—A. H. Sharland, 37 Patterson St., Wynnum North, Brisbane.
4ZS—C. E. Ryan, C/o. Mr. A. Byrne, 249 Campbell St., Rockhampton.
4ZZ—J. L. Kane, Barambah St., Rockhampton.

South Australia

5KF—M. R. Dow, 7 Welwyn Rd., Manningham.
5LH—R. J. Strachan, 2 Brookman Court, Blair Athol.
5PQ—P. Muscat, 1 Bickford St., Richmond.
5RR—R. G. Harris, Forest Ave., Hawthodene, Blackwood.

Western Australia

6KJ—B. H. Gates, Station: 5 Draw St., Albany; Postal: C/o. A. K. Collins & Co., 132 York St., Albany.
6LT—N. T. Lee, 151 Grey St., West Albany.
6NL—V. H. Harris, 43 Tweeddale Rd., Applecross.
6WZ—R. H. Atkinson, C/o. Mr. A. Collins, 6 Cliff St., Albany.
6YZ—R. L. Samphier, 110 4th Ave., Mt. Lawley.
6ZAB—H. Iffla, 6 Queens Cres., Mt. Lawley.

Tasmania

7LS—L. S. Eddington, 3 Jenner St., Wynard.
7SD—D. M. Smith, 84 Cambridge Rd., Warrane.

CANCELLED CALL SIGNS

VK— **New South Wales**

2DG—K. Rudkin.
2LV—H. R. Mansfield.
2TR—T. R. Anthony.
2ACZ—D. J. Allen.
2ANZ—J. P. Shortall.
2ATP—T. F. Pike. (Now VK2ZZ).

Victoria

3AVS—T. M. Strohfeldt.
3ZBT—C. Taylor. (Now VK5ZBD).

Queensland

4DR—L. G. England. (Now VK2TO).
4FR—W. R. Franzi. (Now VK5FR).

Western Australia

6ZAN—R. J. Skevington. (Now VK3ZCA).

Tasmania

7PR—Launceston Technical College.

Territories

9CR—C. W. H. Rasmussen. (Now VK3ARN).

— . . . —

TELEVISION STATION OPERATOR'S CERTIFICATE OF PROFICIENCY

The Australian Broadcasting Control Board has notified the following candidates that they were successful at the examination held in Sydney and Melbourne on 13th March, 1956, for the T.S.O.C.P.: R. W. Forster, F. J. Cross, C. G. Harvey, B. D. Pronger, N. E. Martin, J. M. McConnell, S. G. McLean, M. V. Everett, L. M. Renshaw, D. G. Wickham.

In future, examinations are to be conducted twice yearly, on the second Tuesday of June and December instead of each quarter. Applicants who have passed any section of the examination on a previous occasion will be exempted from those sections for a period of 12 months, that is two half-yearly examinations succeeding the passing of the section.

The next examination will be held in Sydney and Melbourne on 12th June, 1956. Applications for the June examination must be lodged with the Secretary of the Board, 497 Collins St., Melbourne, by 15th May, 1956.

— . . . —

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

[Owing to the late arrival of these notes, they could not appear in their normal position, and some items have been deleted.—Ed.]

Tom Holbert, ex-VS6CQ, advises that he is still patiently waiting receipt of several overdue VK cards, for contacts made while at Hong Kong. Tom, who is now G3DXJ, is located at 52b Valon Road, Arborfield, Berks, England.

Was fortunate to meet the bulk of the recently returned Mawson Amateur team in congenial and convivial surroundings recently. Present were Eric 1EM, Fritz 1VH, Hugh 1AWI and Jack 1JW, the only absentee being 1RA. Passed over to them the big stack of accumulated cards, which no doubt will receive their attention when more pressing matters are disposed of. Jack Ward, 1JW, got out of it lightly as he received only one card, which was from VK3WIA, the Scout Jamboree station. This was Jack's only contact! All the boys looked in first class condition, thanks to the fatherly eye kept on them by Alfie, who is wise beyond his years.

Information is to hand via BERS195 that Pat Luz, one of the operators of CR10AA in Dili, Timor, is still keen to make a comeback on the air but finds it tough going to get the necessary gear for a proper set-up. Pat is currently located at Dili airport radio station and would welcome a word with any Amateur passing that way. Pat cherishes the ambition to migrate to VK one day. During the war Pat performed many invaluable deeds for the cause of the Allies. He eventually escaped from Timor during the Jap. occupation, but returned there at the request of the Allies to further their plans. To this end he was landed behind the enemy lines from one of our submarines.

Ken Halsall, VS6DE, Box 541, Hong Kong, who QSLs 100 per cent., asks that the many VK stations contacted, speed up their cards to him as he is finding it hard to come by VK cards so far.

DX ACTIVITY BY VK3AHH†

PROPAGATION REPORT

3.5 Mc.: Observations of conditions on this band depended largely on the activity of overseas stations. Several good openings to the **North American** Continent were observed between 0900 and 1200z.

7 Mc.: DX activity on this band is reduced by the persistent commercial interference. However, break-throughs to **North America** (0500-1400z) and **Europe** (1900-2100z) can be reported.

14 Mc.: Conditions on this band have generally been good. Practically all continents were workable round the clock. **European** openings were particularly reliable between 0600 and 1000z over the long path.

21 Mc.: This band also showed some good openings to all continents. Times were as follows: **North America**, 2200-0700z; **South America**, 0000-0900z; **Europe**, 0600-0800z for the long path and 1000-1300z for the short path.

27/28 Mc.: Here good conditions can also be reported. Times were for **Africa**, 0500-0900z **Europe**, 0800-1400z, and the **American Continents**, 2100-0700z.

NEWS AND NOTES

Danny Weil is now active as VR1B. He anticipates a stay of approx. two months, followed by a trip to Nauru (from 5WO, W6YY).

BV1US is ex-HC1LW. He is active on 14 and 21 Mc. (from 4HD).

The **Western Carolines** are well represented by **KC6AL** on c.w. and phone (approx. 14100) around 1100z (from 5WO).

Despite improved conditions on the higher bands, many DX stations have recently been heard on the 80 mx band. One of the best known 80 mx DXers in our part of the world is **ZL1CI**. Claude reports these as having been active recently: KP4ADS, KP4DH, XE2NF, KZ-5CS, KM6AX, VE8MF, LU8AE, VP3YG, HK3PC, VP9CR, CE3AG, CE6BS, CR-6AI, PY2AV, YV5BJ, KV4AA, VP9BM, VO3X, CT1DJ, FA8DA, ON4AU, CT-1TT, EA8PP, FP8PM, PA0IF, PJ2AJ, HC1PC, LU8MAH, KR6LJ. Well, the DX is there, but don't be misled by the rare ones mentioned above: **80 mx DX** is much more difficult than DX on the higher bands. It requires a good antenna, a good station and, above all, a patient and skilled DX operator. How about trying your luck on 80 mx during the quiet winter months?

Although your scribe definitely prefers pounding the brass, this column has always been and always will be conducted on a fair basis for c.w. and phone men alike. However, I cannot resist the temptation to point out that the usual a.m. phone means a considerable waste of our very limited Amateur frequency spectrum. The Amateur population is increasing at a steady rate and it is high time to foster less wasteful types of emission. You have guessed it: how about losing one of your sidebands and your carrier if you are a keen phone DX man? This month I have commenced a new sub-section under the heading "Activities"—**14 Mc. Phone S.S.B.** It goes without saying that this new sub-section can only be maintained by the consistent support of s.s.b.-VKs. This is a list of VKs presently active on s.s.b. (forwarded by 3WR): 2AC, 2DQ, 2VA, 2ZF, 3WR, 3AEE, 4AB, 4CC, and 4VJ. Initiative and zeal of all s.s.b. operators are highly commendable.

† Hans J. Albrecht, 10 Belgravia Ave., Box Hill North, E.12, Vic.
* Call signs and prefixes worked.
z — zero time—G.M.T.

YJ1RF is ex-VK1RF (Heard Island, 1953) (from 5RG).

Gordon **VK1GA**, at Mawson, **Antarctica**, has been quite active during the month.

HL1AC appeared on 14 Mc. c.w.

VK3AXU supplied a report on 7 Mc. commercial QRM—thank you!

QTHs OF INTEREST

(from 3JA, 5WO, BERS195, Rod de Balfour, NCDXC)

VQ5GC—Neville Jackson, Radio Officer, Post Box 23, Entebbe, Uganda.
VR1B—Via KV4AA.
PZ1LM—Via W2HQL.
EL2C—Box 36, Harbel, Liberia.
I5AAW—Box 85, Mogadiscio, Italian Somaliland.
FS7RT—Via W6ITH.
ZS7H—G. Smit, G.P.O. Staff, Geodgegun, Swaziland.
AP2M—110 Mulji St., Karachi 2, Pakistan.
VP2DA—Box 64, Dominica, Windward Island.
CT3AN—Jose de Brito Gomes, Rua da Carreira, 197, Funchal, Madeira.
ZC4WR—R. Whiting, Box 219, Limassol, Cyprus.
ZD4BX—J. H. Smart, Box 767, Jumasi, Gold Coast.
ZD6RM—C/o. Post Office Blantyre, Nyasaland.
F9RY—C/o. P.O. Box 130, Bastia, Corsica.

ACTIVITIES

3.5 Mc.: Syd **4SE** worked PA0GKW/A*. **3AHH** also worked PA0GKW/A* (MM-station 50 miles south of Melbourne!), **FK8AO***, **Ws***.

7 Mc.: Frank **2QL** reports KG4AK, ZS7D, and Europeans. Laurie **2AMB** follows with W7BQQ/KW6, KX6AF, LU3EL, KR6LJ. Ivor **3XB** worked VO3X* and Kel **3AEP** adds G*. **BERS195** heard FB8ZZ (1800z), JA1BBE, JA3VM, JA5BI. **Dave Jenkin** reports G2TH, G3BAK. **Rod de Balfour** heard KX6AF.

14 Mc. C.w.: **2QL:** MP4QAL*, VQ5GC*, VP9BM*, VP5BE*, VO3X*, VK1GA*, ZD2HAH, FM7WP, OX3KW, ZD4CC, OY7ML. **2AMB:** LU-8BAJ*, CO2OE*, CE4AD*, and ZD6BX. Neville **2APL:** JA*, KV4*. Bud **2AQJ:** JA*. Alan **3CX:** YA1AM*, KG1BO*, HL1AC*, ZP9AY*. Frank **3FC:** ZS*, ZC4*, CO2*, KV4*, TI*, YI*, FB8*, and XW8. Jack **3JA:** VP9CY*, PY7VG*, VQ8CB*, 4S7BW*, HK3PC*, VR1B*. **3XB:** LU1*, VO3X*, 4S7*, VR1B*. Fred **3YS:** FA8DA*, FB-8ZZ*, FU8AC, VR1B, XE1LA, FP8AP, VO3X*. **4SE:** VS6CI*, VR3B*, KM6AX*, ZS*, VP6PJ*, JA*, LU1NE*, and CX2TX, HZ1AB, VQ3JTW, VQ6LQ, HP3FL, FB8ZZ, HH3AL, KT1WX, VP2VB/MM, KZ5KA, I5RAM, YI2AM, LX1CZ. Doug **5BY:** PZ1BS*, ZD6BX*. John **5HI:** YA-1AM*, OX3LD*. VP5BE*, VP7BC*. Gordon **5HM:** ZE1JC*, VQ4EF*. Rob **5RG:** YJ1RF, EI*. Ray **5RK:** KA*, JA*. Austin **5WO:** VR1B*, KC6AL*, MP4QAL*. Col **7LZ:** VR3B*, VQ8CB*, LU5AQ*, 3V8AB*, VP9CB*. **WIA-L3019:** HH3L, VP9CB, VR1B, VR3B, 4X4AP, VQ4FM. Eric **BERS195:** AP2C, CO2BM, CO2OE, CX2AM, FA-8IH, FB8BP, FB8ZZ, JA, KV4, OQ5QS, PY3XE, ST2NG, VQ4AQ, VQ4FK, VQ5GC, VQ6LQ, VQ8CB, YJ1AA, ZE1JG, ZS, 4X4BD. **Dave Jenkins:** JA, VU2KM, VU2JA, CX2CO, CX1CX, 4S7FM, VQ8CB. **3AHH:** CX2AM*, VO3X*, VR1B*, HL1AC*.

14 Mc. Phone—A.M.: **2AMB:** CO2BK*, OA-4AW*, HP3EJ*, YV1CD*, KP4ZC*, CE3CZ*. Neil **3HG:** CN8MM*, VE1ADQ*, VE1ABA*, VE1EJ*. **3JA:** 4X4BD*, YV5FL*, YV5AB*, VP-2DA*. Bram **5AB:** KA*, JA*, ZM6AT*, CE2CO*, YV5AB*, CE3JJ*, KP4CU*, TI2CHV*, 4X4DH*, XZ2KN*, ZS*, CM9AA*, AP2U*, AP2C*, VQ-6LQ*, TI2LDT*, VR3C*, CN8MM*, 4S7NG*, CX-2AX*, HC2BH*. **5HM:** ZS6*, HC1FG*. **5HW:** YN1ACC*, HI6EC*, KP4ZC*. **5RG:** HP3FL*. **5WO:** F9RY* (Corsica), I5REX*, HP3FL*, FB-8ZZ*, ZE6JA*, CO2MG*, FU8AC*, VP2DA*. **7LZ:** YJ1AA*, KP4ZC*, VP1JH*, KT1WX*. John **WIA-L3019:** 4X4BJ, 4X4BD, XZ2KN. **BERS195:** ZS. **Dave Jenkin:** FM7WQ, CX2AX, ZM6AT. **Rod de Balfour:** FA3GZ, FU8AC, BV1US, VP9AK, F9RY (Corsica), FM7WQ, HR-1CB, VR1B.

14 Mc. Phone—S.s.b.: Jack **3WR** reports KL-7AOP*, W1CLS*, K2DW*, W9AUK*, W0HH*, W2KR*, W6ITH*, G2IG*, DL1DX*, VS6CW*, DL3AR*, W0UJS*, OZ3EA*, VE6FI*, VE7JB*, KA*, DL4YU*, W2AOW*, W1CMD*, W0ZZ*, KA2IY*, KX6NB*, KV4BB*, KR6GM*, W6JJU*, W7QEU*, KH6BLB*, W6YHR*, W0CXX*, W7-SMU*, W9BZB*, W1CUX*.

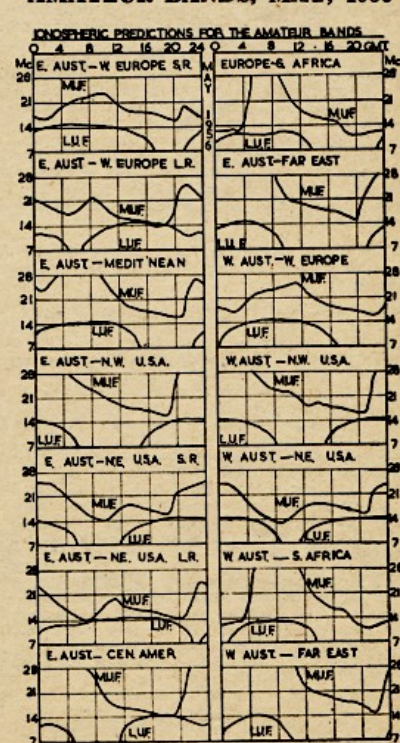
21 Mc.: Ted **2AOP:** SM*, JA*, G*, KG6*, DL*. **2APL:** KX6*, ON*, OH*, LU3AX*, F*, W6AOZ/MM*, G*, W2NWQ/MM*. Bert **3HE:** G*, KH6*, LA5*, CO1AF*, OQ5AG*, VU2AK*, VU2RC*, F*, OH*, OZ*, and VP8BS, VP1EE, CR7CO, OD5AV. **3HG:** OH*, ZS5OV*, W2DUM/MM*, BV1US*, OQ5AG*, G*, LA*, F*, JA*, SM*. **3JA:** I*, DL*, CE3NS*, YV5AP*, VP6FR*, F*, G*, BV1US*, SM*, ON*, OH*, OA4AU*, HB*, VU*, LA*, PA0*, ZB1*, IT*, PJ2AV*. **3YS:** DJ*, VU2RM*, PA0PN*, DL0CXA*, G*, OZ*, F*, JA*, I*, VU2HF*. John **5JW:** G*. **5WO:** KZ5CP*, VE*, ZS5JM*. ZS1BK*. John **6GU:** ZS9G*. **7LZ:** I*, CT*, VR2*, K4CUB/KL7*, ZS3G*, BV1US*, KX6*, JA*, OH*, DL*, FA8RJ*, KR6*. **WIA-L3019:** BV1US, VP8BL, I, DL, OQ5AG. **Dave Jenkin:** G, JA, GM, VS6CO. **Rod de Balfour:** G, CE3CZ, DU7SV.

27/28 Mc.: **3HG** reports Ws*, HK3AB*, ZS-2ND*. **3YS** mentions Ws*, VE*, KP4GN*, JA*, KR6QR*, ZE2JJ*, ZS6ZK*, TG9JW*, CR7BB, VQ4EU*, VQ4RF*, ZE1JE, ZS5JY, DL1, G*, EA*, SM*, ZE2JJ*, and on 27 Mc. KH6*, W*, KL7BFW*. Max **4HD** worked W*, VE*, VP-1SD*, CO1AF*, XE1FU*, VP7NG*, KL7AZI*, VP6PV*, HR4WH*, KA*, VS2*, DU*, JA*, I*, SM*, G*, GD3GMH*, OH*, ON*, HC1ES*, HC-1FS*, ZP5AM*, CX7BA*, PY5EK*, HC1FG*, CX2CO*, LU3AAT*, LU4CC*, CX4CS*, LU9FAY*, LU5DC*, LU5AE*, HK3PC*, ZS6ZK* ZS6OY*, ZS5JY*, ZS6TE*, ZE2JE*, ZS6AJH*, VQ4RF*, ZE2JJ*, EA*, CT*, HB*, G*, F*, OE*, I*. Les **4XJ** contacted W*, VE*, KL7*, XE2FC*, XE-1OS*, JA*, KR6*, DU*, VS2*, HC1KV*, HK-3AB*, HK3PC*, LU5AE*, TG9AD*, TI2LA*, G*, ON*, ZE2JJ*, ZS5PG*, ZE2JE*, ZS6TD*, ZS-6YZ*, ZS4FS*, ZS5CM*, CR7AF*, CR7BB*, OQ-5AJ*, VP1EK*. **5HI:** W*, VE*, VS2*, JA*. **5WO** reports W*, VE*, ZS5MP*, ZS1KK*, ZS-6ANR*, ZE2JE*, ZD6RM*, ZS6AJH*. **6GU** QSO-ed PA*, VQ4ERR*, ZE2JJ*, VS6*, ZS*, ZD-1AJX*, KL7*, CR7CO*, ST2DB*, ZS1B*, MP-4BBW*. **7LZ** adds W*, TG9JW*, JA*, KP4GN*, XE1PY* and LU, ZS, VQ4. **Rod de Balfour** heard W, TG9JW, VQ4EU, JA, KH6. **3AHH's** log shows W*, JA*, and ZS.

Rare QSLs were received by—2QL: ZS9O, ZM6AS, VQ8CB, and LU8 (3.5 Mc.). **2AMB:** LU3EX, LU1FBQ, LU1QB, YV1AD, VR3A, VP9BM. **3ATN:** ZD6RD, EA6AR. **4SE:** SV0WL, VP9BM, 5A2TG, ZC5CT, ZE6JJ. **5HI:** VP9BM, CO2CY, FB8BR, CR7IZ. **5WO:** CP5EK, CX2AM, ZS3G, CR6CV, VP5KJ. **7LZ:** MP4QAL, KZ-5EA, KT1WX, ZC5CT, CO2CY. **BERS195:** CR-7IZ, CS3AC, GC3KAV, VP9BM, VQ8CB, ZC-5SF, 3V8AB. **Rod de Balfour:** ST2DB, CO2CY, VQ4RQ, YI2AM, CT3AN, KP6AK.

Thanks to W6YY, ZL1CI, the Nth. California DX Club, and VKs 2QL, 2AMB, 2AOP, 2APL, 2AQJ, 3CX, 3FC, 3HE, 3HG, 3JA, 3WR, 3XB, 3YS, 3AEP, 3ATN, 3AXU, 4HD, 4SE, 4XJ, 5AB, 5BY, 5HI, 5HM, 5HW, 5JW, 5RG, 5RK (thanks for forwarding reports from 5BY, 5HI, 5HM, 5HW, 5JW, and 5RG!), 5WO, 6GU, 7LZ, and WIA-L3019, BERS195, Dave Jenkin and Rod de Balfour.

IONOSPHERIC PREDICTIONS FOR AMATEUR BANDS, MAY, 1956



FIFTY-SIX MEGACYCLES AND ABOVE

It has been reported that the following JA stations were contacted by VK2RU on the 50 Mc. band during the Easter week-end with signals up to S9: JA1ANO, JA3ME, JA1GP, JA1ID, JA3JJ, JA2QR, JA4GJ, JA3EK, JA1NF, JA1APQ. Any further information on this break-through would be appreciated.

A report has also been received that a contact was made between LU and JA on 50 Mc. which should slightly increase the current world record for this band.

Further indications of DX on the v.h.f's. is the fact that American Police cars are being received on 40 Mc. at S9 in Victoria.

NEW SOUTH WALES

March proved to be a fairly active month for the VK2 v.h.f. boys and, contrary to the usual run of things, it was not all confined to the 144 Mc. band.

The main event of the month was the annual Spring Field Day which was held on Sunday, March 18. Thirteen portable stations and 45 home stations were active. However, as is usual in all Amateur affairs, very few logs were returned to our contest manager. The sum total was 13, comprised of eight from field stations, three from country home stations, and two from the city. The scores were computed on the basis of numbers of contacts and length of contacts with bonuses for the three longest distance contacts of the day. The top scorers were: (a) Field Stations—2HO (Mount Bald), 304 pts. for 35 contacts; (b) Country Home Stations—2WH, 181 pts. for 11 contacts; (c) City Home Stations —2ZCF, 42 pts. for 9 contacts. The three best contacts of the day were 2WH with 2RS/P at Albury over 204 miles, 2HO/P (Mt. Bald) with 2ZAA/P (Kendall) over 192 miles, and 2ANF/P (Waterfall) with 2WH over 173 miles.

The second event of the month was a Surprise Scramble, which was held on Sunday night, March 25. The VK2 Group have held several of these Surprise Scrambles and they have proved very popular. The idea originated from a chance remark to the effect that it was probable that the Sunday evening broadcast on 144 Mc. reached a far bigger audience than was imagined. The procedure now is that the members doing the broadcast are responsible for "turning it on" on suitable Sunday nights without any warning; the only announcement made is at the end of the broadcast that the Scramble is on until 9 p.m. At that time the station who did the broadcast takes the scores over the air and then broadcasts them. 25 stations participated in the last Scramble. Top scorers were 2OA and 2ANF, 21 each. 2ZBV made his first appearance on the band five minutes before the Scramble finished.

2ZCF and 2ZAC have been active on 288 Mc. —a band which normally has a graveyard sound in Sydney.

Dave 2BZ cracked the path to Forbes via 144 Mc. on March 17 and has been working Hugo 2WH regularly since. Dave has also been heard by 2ALU in Cowra. 2ALU is further in the news because of his new tx using an 829 in the final on 144.09 Mc. He has cracked the Sydney path and has made several contacts with the big smoke. While still in the DX mood, let me warn all and sundry to keep their eyes on the shipping news for the movements of either S.S. "Tayo" or S.S. "Caronte," and listen for FK8AB/M on either 144.6 or 147 Mc. The last time he was our way he heard signals from Sydney while anchored in Port Kembla. This time he says he will have a tx. DXCC 144?

The fox hunt organised for Feb. 29 was cancelled at the last moment due to the Melbourne weather that Sydney has been experiencing. This was the first outing of the V.h.f. Group that had been cancelled because of weather. In consequence the following rule has been formed. For fox hunts, hidden tx hunts and field days which have a control station, the fox control station is responsible for making the decision whether the weather is bad enough to cancel the fixture. He is also responsible for promulgating this decision. However, all contestants are warned that it is wise to listen on the band before leaving home. For all other types of fixtures, "it's on," weather or no.

By the time this is in print, our Group Chairman, Roy 2HO, should be in his new QTH. He will be living **up** on St. Ives instead of **down** in Roseville. Perhaps this is the basis of the rumour we have heard that his new house is to be called "ELOHSTRAH." Anyway, it looks as though Roy will be in a really suitable location to do the Sunday night broadcast.

Perce 2APQ now claims to be an **all**-band Amateur after his appearance on the ABC's Week-end Magazine. Still, he did give v.h.f. a nice bit of publicity. Frank Legge interviewed him about the last expedition to the Jenolan Caves and played a taped QSO between 2APQ inside a cave and 2XX outside all the caves.—2OA.

VICTORIA

The third v.h.f. field day for this season was entered into with a great deal of enthusiasm. Quite a good number of portables were out; among those heard were 3GM (Mt. Bunninyong), 3ADU (Youyangs), 3LN (Mt. Dandenong), 3AHJ (Yan Yean), 3OJ (Arthur's Seat), 3ZCG (South Moe), 3IE (Olinda), 3ZBU (Kinglake), 3AJK (South Moe), and 3ZAD Donnabuang. The 2 mx band was particularly active, especially in the afternoon and 3IE at Olinda made a couple of rather good contacts in working 3ZD at Warragul and 3AJK and 3ZCG, who were both portable at South Moe. 3LN also worked 3AJK and 3ZCG. There is an attractive certificate to be awarded to the winner of this field day. Results will be announced at a later date. The winner of the second v.h.f. field day was Reg 3ZAD; congrats. Reg. 3GM was a close second and 3LN third. For future field days we would like to suggest that those going portable advise the publicity officer, 3LN, of the location they intend going to, then this information can be advertised in the Sunday broadcasts over 3WI and perhaps save the disappointment of two portables turning up on the one mountain top.

At the March fox hunt the fox 3LN endeavoured to add a little variety to the hunt by running several very short sprints, making a short stop until he was caught by one hound and then immediately starting off on the run again. This change in procedure seemed to add quite a bit of excitement to the hunt as catches came more frequently, the fox being caught on 25 occasions during the evening. The final location was at the home of 3ALY, Laurie and Marj, many thanks Laurie and Marj, and during supper and the postmortem the winner was announced. First was Laurie 3ALY, second Ray Price and third, Jack 3VZ. A newcomer to the hunt was Tom 3AOG with Ron 3AHJ as navigator. They did very well and we'll hope to see them at more hunts in the future.

Very excellent conditions are still occurring in spasms on 2 mx. On 14th March between 9 p.m. and 12 p.m. 5BC was worked by 3ZBS, 3PO and 3ZL in Ballarat with very good signals both ways. 3RK also made a contact.

On April 2, Easter Monday, there was also another very excellent break through on 2 mx when 5BC was worked by 3ZCW, 3ZAQ, 3ALZ, 3YS, 3PG, 3RK, 3ZBE, 3PO, 3ZBS, 3AKR and 3ZAD. Signal strengths were very good, in fact Albert 3PG reports being able to hear children's voices in the background at 5BC. On the same evening 3ZCW made his first contact with Melbourne when he worked 3ALZ.

The March v.h.f. meeting took the form of a visit to a place of interest, the place being an inspection of the Central Fire Station at Eastern Hill. The demonstrations were very spectacular. Henry 3EN, the Brigade's chief radio officer, gave the chaps a very detailed description of the tx and his service department. All were greatly impressed with the versatility of Henry's work when it was realised that they build all of their own tx's and rx's, both for fixed and mobile work, within the section and the Brigade does not have to rely on outside commercially built equipment. The visit concluded with a vote of thanks being passed by 3LN to Henry and the Officers of the Brigade. —Phyl Moncur.

288 Mc.: Ray 3ZAE and John 3ZAI went to Pretty Sally Hill (30m. N. of Melb.) and worked all the locals—save 3QO. Pity that horizontal polarization tests could not have been carried out, as signals may have improved. At Easter 3AUX again worked fixed portable at Montrose (20m. E. of Melb.) at base of Mt. Dandenong. Geoff worked the locals and repeated polarization tests with 3QO and got same results as before, i.e. signals came up 3 S pts. when horizontal polarization was used. Bert 3AAF took his mobile xtal locked 288 Rx with him on a trip from Ferntree Gully (20m. E. of Melb.) to Geelong (40m. SW. of Melb.). 3QO took his xtal controlled gear in to 3RI and ran continuous tone mod. signals on 288 Mc. with 15w. input. This signal from the city was audible 98 per cent. of the time from Ferntree Gully to Geelong and at times on the Geelong Rd. (which is straight and flat) was S9 plus. Sigs were good in Geelong itself. Finally seeming that 3AAF got such good 288 Mc. sigs in Geelong from Melbourne, how about it, you Geelong chaps?—3QO.

WESTERN AUSTRALIA

The second fox hunt of the Group was highly successful with seven cars participating and about 30 people. A welcome visitor was Fred 6FT who followed the cars around. You'll have to get some gear Fred and join in the fun! Rolo 6BO was the winner, followed by 6HK/6WJ, 6TR/6ZAZ and 6BE/6ZAA. Rolo established a record by finding the tx within 30 min. The first field day of the Group is being held on 13th May when at least 12 stations are planned to link up the southern portion of the State. The next meeting of the V.h.f. Group will be held on 5th May at the residence of Don 6ZAV. All interested in v.h.f. will be most welcome!

144 Mc.: Checks with Wally 6WG have continued over the 240 mile path and signals seem to be present 4 days out of 7. Rolo is considering the possibility that since signals have not been heard when the barometer is above 30 inches, which doesn't agree with observations made in England, that Albany is too close! A station in Geraldton (320 miles) might give us an opportunity to test this hypoethesis. Anyone in Geraldton interested?

Tom 6ZAH in Brunswick Junction was visited recently by Murray 6ZAM and Wally 6ZAA who brought down 6ZAA's home station and successfully demonstrated that 2 mx was an excellent proposition in the Bunbury area. Signals were 5/7-9 both ways with Rolo 6BO and Don 6ZAV. Tom is now 6TH. Congrats Tom!

288 Mc.: Rolo 6BO's 288 Mc. signals have been successfully identified at a distance of 186 miles.

Following highly successful checks between Perth and Bruce Rock when Rolo's signals were heard consistently over a 127 mile path at strengths (day to day) varying from S2 to S7, with phone being copied on peaks, Don 6DW took his converter to Gnowangerup and was able to identify Rolo's carrier and repeat letters sent at random. The signal was extremely weak, but in view of the temporary nature of the set-up in Gnowangerup and the fact that checks were made on only four occasions, it is very fine work Rolo and Don! Rolo's tx is an 832 tripler driving a QQE06/40 with 40w. input, antenna a 4/4 stacked yagi, **horizontally polarised**, with a full wavelength between bays. Don's rx is a 6J6 p.p. neutralised triode with a 6J6 p.p. mixer and i.f. 7 Mc. His antenna is a 4/4/4/4 with a full wavelength between all bays. Don 6ZAV has also been copied in Bruce Rock on several occasions. Don is using an 832 in the final and a 4/4 beam. The present Australian record of 106 miles must be very precarious!

Welcome to Australia, Ken, formerly G3AVF. Ken is particularly interested in v.h.f. and we're very glad to have you here!—6ZAA.

TASMANIA

The 2 mx activity has fallen off with the lack of DX signals, this in spite of a good listening watch when conditions appeared at all favourable. 7LZ heard stations testing and unidentified weaker stations on 27th March. 7PF heard 3ALZ on c.w., but no QSO resulted. 7ZAW came on 2 mx on 27th Feb., operating from Beauty Point, and made contacts with the Launceston gang. His home location in Launceston should be good for VK3 DX. 7RL is building a tx for 2 mx and has a 522 rx going on the band. 7LZ has erected his 5/5 and it seems to be going OK, but hasn't heard enough DX signals to compare with the old beam. Col is again v.h.f. officer for VK7. 7PF and 7GM are now using the new cascode tube, 6CW7. This gives a much better performance on 2 mx. 7PF now measures the noise factor as being 4.3 db. on his converter. The construction of the 6CW7 is much better than the 6BQ7 and about one-third the price. 7PF has replaced his 815 p.a. with a 829B, which gives greater r.f. output.—7PF.

SHORT WAVE LISTENERS' SECTION*

VICTORIAN GROUP

The last meeting of the Group was conducted on 27th March at the rooms, 191 Queen St., Melbourne. Max Hilliard, from VK5, was present and passed on greetings from the boys in South Aus. A new member, Bert Stebbing, was welcomed. Fred 3YS also put in an appearance. The main feature of the meeting was a talk by Max 3ZS on the organisation of the Wireless Institute. Arrangements were made at the meeting for a visit to the station of Dick 3XD. Four members of the Group were at his QTH on the evening of 6th April, despite the pouring rain. It was a very interesting evening. Our thanks are due to both Max and Dick for giving us such a very fine evening.

Coming Events: A visit to the Police Radio Station D24 has been arranged. This visit is timed to begin at 4 p.m. on Sunday, 29th April. All members are requested to meet outside the Police Hdqrs., Russell St., City, by no later than 3.45 p.m. As the Police Force is a very busy organisation, it would not be well to keep them waiting. Any Amateurs who would like to join our Group for this visit are cordially invited to do so. In fact you can participate in any other of our activities if you ever wish to do so.

You are reminded to keep the following programme in mind: May 29—Free Night. June 26—Talk on Construction and Operation of V.h.f. Gear by Fred 3YS. July 31—Talk on his recent overseas tour by Geoff 3DF. August 28—Annual meeting, election of office-bearers. September 25—Talk by Len 3LN. October 30—Talk by Ron 3ARV. A visit to the City West Telephone Exchange is being arranged, so watch for this.

CALLING ALL AMATEURS

If any of you would be willing to receive a visit from a small number of S.w.l. Group members, say about five, please let us know. Also, if we may be able to help you by monitoring your transmissions at any time, listening while you are going mobile or even lending a hand in the erection of an antenna, don't be afraid to contact us. You'll be helping us in this way as we must gain experience by such activities. Write to Ian Hunt, 101 Robert St., Northcote, or ring MY 260 Ext. 526 during the day. Any enquiries are welcome.

All s.w.l's. are requested to forward reports of stations heard together with details of the equipment being used. We've been promised some information from the VK5 boys, so how about it? Come on all you country chaps and also VK2, VK4, VK6 and VK7. Are there any S.w.l's. in VK9? We'd be very pleased to hear from you.

* Compiled by: Ian J. Hunt, WIA-L3007, 101 Robert Street, Northcote, Vic.

HEARD AMONGST THE HETERODYNES

3.5 Mc.—WIA-L3007: VK2APL, VK3AHH, VK-3PR, VK3QZ, VK3LR, ZL4IE, VK2AXH, VK-2CS, VK3HE.

7 Mc.—WIA-L3007: VK3JO (fixed portable station), VK3AMM/M. **WIA-L3015:** W3ECR, W6AM, W0KOK.

14 Mc.—WIA-L3007: EI2W, EA8BB, HP1CC, GM3DHD, G8LG, CE3PV, ZK1BS, EA2CQ, DU-1CV, VS2DO, VU2EH, KM6AF, VK9BS, YJ1RF, VR2CV, VK1IJ, FU8AC, EA8AI, M1B, K9DB, VS2DB, F8EG, ZS6CV, VE3FU, KC4USA, LU-2FR, VE3ARS, ZS4JK, G3FXB, VE3ED, CO2BL, VE7JK, VE4DB, KL7BVK, ZM6AT, F8XCZ, EA2DJ, ZS6BW, DL4MW, F7EA, LU7DX, FS-8AK, DU1JK, XE1A, XE2KW, XE1CW, FM7WQ, OQ5BK, VE5GU, ZS6XB, VE1ZT, HC2BH, CN-8JB, W1-W0, KH6, KG6, KR6, KA2, 3, 5, 7, ZL1-4, VK2-7. **WIA-L3015:** CN8MM, CO5LF, CE3PV, DL4XK, F3MM, F8SI, F9RM, FO8AB, FU8AC, G3GQ, GM3DHD, GM8MN, I1RB, JA-3IS. JA6AK. KA2AK, KG6NAA, KH6OR, KR-6RT, KP4ABD, KX6BU, KZ5IF, EA3CY, LU7DX, OE5CK, OZ5KQ, PY3AGR, TI2OE, VE1ZT, VE-3ARS, VE7EF, VK1IJ, VK9DS, VR3C, VR2AM, VS1CZ, VS2DQ, VP2VB/P, OA4AI, XE1MJ, XZ-2KN, YJ1RF, YU1AO, YV5AB, ZK1BL, W1-W0. **WIA-L3019:** VU2US, VU2JK, OH5NW, OK1KT, OK3BG, 4X4GS, 4X4BJ, 4X4BD, OZ5KQ, HH-4MV, HH3L, HB9RE, HB1RM, IT1ZG, 3V8BB, VP7NG, PZ1WK, IT1BXX, VP9GB, DU6IV, DJ-2JB, I5RAM, VS6BU, SM9VN, VE3AIU, VE-1ADW, VR3B, VR1B, LA5YE, VQ4FM, Gs, I1, Fs. **Lola Burton:** KA2WZ, KA2WW, KH6NES, KH6AXH, YJ1RF, KX6BU, ET2US, KP6AK, VS1CZ, VR2CZ, MP4BBF, GM3DHD, XE2AI, CN8MM, PY4APE, FU8AC, 4X4DK, EA2CQ, HK3FV, YV5EC, KR6SA, KG6NAA, KG6AFX, KL7AIV, VE1EI, TI2RMA, VK1IJ, VP2DL, HK-5ER, LU7DX, ZK1BS, ZK1BL, HC2BH, HP3EJ, HP3FL, VP1JH, ZS6AJS, OE5JK, OA4AI, KM-6IX, VE1AE, KW6VG, 4X4BD, CO2MG, KA5CL.

21 Mc.—WIA-L3007: KH6ZA, W6AM, KH6-WAG, VS2DB, F8EG, ZS6CV, KV6ZB, W2SKE, KA2GX, HC1FS, W9FQS, W6AL, ZS4JK, G3-FXB, EA2DJ, ZS6BW, F7EA, XE1A, KP4ADX, K4CUB/KL7, W7VMP, KL7ALZ, VP5RR, VP-6FR. **WIA-L3019:** BV1US, VP8BL, I1FKG, DL-1VX, OQ5AG. **Lola Burton:** G3KFT, W1SCS, DL4XA, DL6NB, KH6BS, OH2NB, I1AYI, HZ-1ER, G3CQE, K6MEA, VK9DB, KR6PO, OH1RU, SM5RM, KX6ZB, G8SY, VE5VL, KA7HH, KR-6MY, PY2AY, OH5NM, OH2OV, ZS2ND, OA-4AI, JA4BB, VU2RC.

28 Mc.—WIA-L3015: HK5ER, KH6AXH, KP-4GN, VE4RO, VE7AJU, VK9DB, W1-W0.

144 Mc.—WIA-L3003: VK2RS, VK3SE, VK-3ZCG, VK3ZDB, VK3ZBU, VK3ZDG, VK3AWS, VK3AWU, VK3ZAN, VK3FO, VK3ADU, VK3QO.

288 Mc.—WIA-L3003: VK3QO, VK3AAF, VK-3AUX, VK3ZAI/3 (Pretty Sally Hill (34m.), VK-3ZAN, VK3ZBD. **WWIA-L3001:** VK3AAP, VK-3QO, VK3AUX, VK3GQ, VK3ZAI, VK3ZCJ, VK3ZAN, VK3GM (Mt. Bunninyong), VK3ZAQ.

Well, after having read this most comprehensive list you'll agree that the bands are well and truly picking up. So go to it and see what you can hear. Next month we'll tell you something of the gear these listeners are using, so till then, cheerio and good listening.

50 Mc. W.A.S.

Call	Cer. No.	Add. Cntr.	Call	Cer. No.	Add. Cntr.
VK2WJ ..	13	4	VK2AEZ ..	10	1
VK3PG ..	5	3	VK3XA ..	11	1
VK2VW ..	9	3	VK3GM ..	12	1
VK4RY ..	2	2	VK3ACL ..	14	1
VK4HR ..	4	2	VK3ZD ..	16	1
VK5LC ..	1	1	VK2HO ..	17	1
VK6DW ..	3	1	VK2ABC ..	8	
VK3RR ..	6	1	VK2WH ..	15	
VK3HT ..	7	1			

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

R.S.G.B. MEMBERSHIP APPLICATION FORMS

At the request of several members, Federal Executive has obtained from the R.S.G.B. in London some application forms for Corporate Membership in that Society. The annual subscription rate for Overseas Members is £1/1/- per annum.

Forms may be obtained by writing to the Federal Secretary, Box 2611W, G.P.O., Melb'ne.

CHANGE OF FEDERAL COUNCILLOR IN TASMANIA

After some years as Federal Councillor, Mr. J. Brown, VK7BJ, has relinquished this exacting post. Noted for his promptness and thoroughness, Joe kept Executive fully conversant with things in VK7 from a Federal point of view.

Taking over this position is Mr. D. Fisher, VK7AB, and all will wish him well during his term of office.

LIST OF SUCCESSFUL AMATEUR CANDIDATES

The following is a list of candidates who were successful at the examination for the Amateur Operator's Certificate and Amateur Operator's Limited Certificate held on 10th Jan., 1956:

New South Wales

L. T. McLoughlin, Hunters Valley, Ellerston, via Scone.
*R. H. Dell, C/o. Mrs. S. Davison, "Cunningham Plain," Cunningar.
*K. L. King, "Fontainbleu," Honour Avenue, Lawson.
*J. E. Mackie, P.O. Box 40, Hillston.
C. H. Orr, 281 Princes Highway, Rockdale.
*J. B. Webster, 25 Bayview Ave., Eastwood.
*J. H. W. Grace, 27 Davies Ave., Watson's Bay.
*D. E. Woollett, 12 Broadarrow Rd., Beverley Hills.

Victoria

R. E. Graemer, 21 Lyonsville Av., East Preston.
J. R. Barber, Carr's Lane, Anakie.
*S. R. Brooks, 23 Hex St., Tottenham.
*D. J. B. Hull, "Panorama," Larnach Rd., Baxter.
*D. Calwell, 87 Panoramic Rd., Nth. Balwyn.
*A. K. Tilley, 23 Milroy St., East Brighton.
C. J. Waterlander, William St., Ouyen.
K. R. Cakebread, 45 Barrier St., Benalla.
*M. R. Osborne, 14 Brenbeal St., Balwyn.
K. L. Rogers, State School No. 3674 Dudley, White Rd., Wonthaggi.

Queensland

*L. F. Schmidt, 18 Marriott St., Cooparoo.

South Australia

*M. J. Goodridge, 63 Gray St., Plympton.

Western Australia

T. H. Talbot, "Wedderburn," Brunswick Junction.

Tasmania

G. H. Cranby, 17 Friend St., Georgetown.

* Qualified for Limited Certificate.

The above list does not include candidates who, although they failed in the examination for a full certificate, qualified in the subjects for a Limited Certificate. Such candidates are issued with a Limited Certificate on application.

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NEW SOUTH WALES

Well, chaps, here at last are a few notes for "A.R." to keep N.S.W. Division to the fore. The writer, 2APF, has been doing a bit of snooping around the bands and here is what is alleged to go on: A signal has been heard from Merv. 2ATD (Tamworth) after a long absence; Merv. hopes to be regular in appearance. Syd 2APS has been active on 40 and 80 mx on his new rig, which, we are led to believe, has all silver plated coils, and is doing an f.b. job, too. Sam 2ZBL will be sitting at the April exam. for his full ticket and we wish him every success. Wall 2AXH, who is a familiar voice on 40 and 80 mx, has had a visit from Allan 2AIR, who is holidaying in Terrigal with his XYL after a very hectic time in Tamworth, and Allan has been helping Wall line up his AR7 with f.b. results. Cec 2AKC is talking just as well, sinus trouble and all, and puts out a very nice signal to Tamworth.

Many and varied signals have been heard from a number of AT21s, but credit must go to Hart 2JC (of Narrabri) for having the best grid modulation yet heard. Ben 2ABT has had his AT21 on and the quality is good also. Bob 2AQR will shortly be leaving Warragamba, and will be heard from West Wallsend; best of luck in your new venture Bob. Noel 2ASQ will be home after Easter from Puckapunyal camp, where he has been having a holiday at the expense of the Army (lucky fellow) and hopes to have a pair of 6146s in a pi-network going soon, also a s.s.b. rig is in the offering. Reg 2HM has been heard working some VK5s on 40 mx with good results. Steve 3ASS (the midnight station from Swan Hill) tells me he will be leaving Swan Hill to migrate further north as the winter comes and may even settle for Tamworth. It is pleasing to hear the bands well occupied of late and should be a good argument in favour of extending seven megs. back to its original size.

SOUTH WESTERN ZONE

Our main item of interest this month covers the pro-tem meeting of this zone at Griffith on 11th March to arrange this year's Convention, which will be held at Griffith on 29th, 30th Sept., and 1st Oct. The meeting was held at Eric Clare's office. On behalf of the zone many thanks are extended to you, Eric. Members present were as follows: 2BW, 2AID, Wagga; 2PN, 2ZAA, Tumut; 2RS, Albury; 2AJO, Coolamon; 2AXD, 2ACS, 2PL, 2FS, 2AVJ, 2ZAZ, John Smith (Z call), Roland Grivas, Laurie Ashton, Eric Clare (Associates). A committee, comprising 2PL, 2AXD, 2AVJ, 2FS and Laurie Ashton, was formed to arrange the programme. At the conclusion of the meeting we were treated to a very fine afternoon tea, for which we are indebted to Laurie Ashton and XYL. Many thanks to you both.

Don 2RS and your scribe, 2AJO, journeyed to Griffith on 11th operating mobile 2RS. Many contacts were had en route. Alf 2BW also operated mobile and had some good contacts. Keith 2ZAA and YL Jean, when this is read, will be in double harness—the happy event took place on Easter Monday. Congrats from all in the zone, Keith and Jean, we wish you a life long happiness. I would also like to thank Mr. and Mrs. Jones (Brian 2AVJ's parents) for entertaining Don 2RS and your scribe at morning tea. Brian has a very nice shack and hopes to soon be active on 144 Mc., also mobile. Stewart 2PL has new gear, also Ted 2AXD who has an AT21. Evan 2ACS is active from Griffith. Your scribe has been working overtime with an increase of power on 144 Mc.—80 watts now, so come on Griffith, how about a signal or even a listen on 144.36 Mc.—2AJO.

HUNTER BRANCH

The Annual General Meeting of the Hunter Branch was held at the Tighes Hill Technical College at 8 p.m. on 9th March. Twenty-four members and visitors were present, including Jim 2YC (State President), Perce 2APQ (both from Sydney), and Major 2RU (from Gosford). Others travelling long distances to be present were Geoff 2VU (Singleton); Chris 2PZ (Aberdar), Harry 2YL and 2MC (Cessnock), and Associate "Mac" O'Brien from Raymond Terrace. The local members present were 2CS, 2XT, 2OT, 2FP, 2ARV, 2AGD, 2AHA, 2AOR, 2AFA, 2ADS, 2ANA and associates Gordon Sutherland, Frank Stobbs, Stan Lloyd, Ray James and Bob Bailey.

Reports on the past year were given by the Secretary, Treasurer, and Social Secretary. The Secretary reported that our lecturers for 1955 had been 2CS (twice), 2AC, 2JU, 2VW, 2EG, 2OT, 2UY and 2AMM, all of whose lectures were much appreciated by the branch.

The election of officers resulted as follows: President: Bill Hall, 2XT; Vice-Presidents: Harold Whyte, 2AHA, and George Lee, 2AGD; Secretary: Charlie Archbald, 2ARV; Treasurer: Doug Rodgers, 2ADS; Zone Correspondent: Les Sparke, 2AOR; Social Secretary: Gordon Sutherland; Social Treasurer: Bob Bailey.

Perce 2APQ then gave the branch a lecture on "V.h.f. in the Caves," enlarging the scope to include v.h.f. at Kosciusko, Ebor and with the Bushwalkers and Speleological Societies.

Jim 2YC (State President) gave the meeting an explanation of required operation of 2AWX in the Civil Defence Emergency Network. Jim also explained necessity for "Home for VK2WI" and the need for more donations to facilitate this being achieved.

Charlie 2ARV has received advice from the J.A.R.L. that the A.J.D. Award may be claimed through the W.I.A. by submitting the necessary cards to them. Neil 2XY will at 7.45 p.m. each meeting night, give c.w. practice and tuition to any associate desirous of taking advantage of this offer. Harold 2AHA has got his pole up at last and, with 46 ft. out of ground, he should have line of sight to Sydney. Bill 2XT, Jim 2AHT and Bill 2ZL are all in possession of AT21 Tx's. Leo 2QB has a potent signal on 14 Mc. and making W contacts. Lionel 2CS is using a converted Command tx; is very pleased with it. Bill 4XM (formerly 2AXM) reports two windows blown out and antenna mast blown down in last cyclone. Harry 2AFA has built a 2 transistor rx which he reports works a speaker quite well.

Tom 2PQ working a lot of DX on 10 mx. Frank 2AUH investigating lack of drive in his tx. Rodney Prout has passed for a Limited Licence. Les 2AOR still feeding his face after nightly QSOs. Ron 2ASJ operating c.w. on 14 Mc. occasionally. John 2XQ working c.w. DX. Varley 2SF comes on Monday nights to report to 2AWX; house painting accounts for his absence during the week. Nothing heard from Jack 2KQ, Norm 2ANA or Ron 2AAI for sometime.

The lecturer for the May meeting of the Hunter Branch will be Mr. Wal. Spencer, from the N.S.W.G.R. The title of his lecture being "Electronics in the Railway," this will be an interesting and informative lecture and a large attendance is anticipated. The date, 11th May; the time, 8 p.m.; the place, Tighes Hill Technical College.

Don't forget to listen to 2AWX on 14.05 Mc. at 8 p.m. every Monday night for information on the activities of the Hunter Branch.—2AOR.

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VICTORIA

Another Annual Meeting has passed and a new year has started with a new Council at the helm. This time, the first for many years, there was an election for Council and now along with some of the old experienced hands there is some new blood, a very good combination for the advancement of the W.I.A.

The new Council is as follows: F. Ball, 3YS; H. Hodge, 3HE; G. Dennis, 3TF; H. Albrecht, 3AHH; J. Marsland, 3NY; K. Pincott, 3AFJ; H. Charles, 3AHC; L. Robinson, 3ALD D. Wardlaw, 3ADW G. Buckingham, 3QU.

The retiring President, Gordon Dennis, 3TF, was re-nominated for that office once again. This will make Gordon's fifth successive year as President and somebody murmured "What'll your wife say?" From what we have seen of Gordon's XYL, Nina, she will be staunchly behind the President on the many occasions on which he will need her support, so long as nobody let's her know that there's a disposals handout to be organised in the near future.

As annual meeting night is mostly taken up with the elections, a lecture is not arranged for this evening and this usually leaves time for some very lively arguments on various subjects. However, they lacked the usual fire this year and not nearly up to last year's standard. One wondered if Ron 3RN was ill, he was amazingly quiet for 3RN; even his cobber, new councillor "Mr. Pinhead" 3AFJ, didn't seem to have anything to grouch about. Len 3LN was otherwise occupied, counting ballot papers, so that kept him quiet. (Was that the reason he was nominated as a scrutineer?—Ed.) Doug 3DU, George 3AG and Bill 3UM (good arguers all) seemed to be sadly out of form. Max 3ZS wasn't there, maybe that's why the meeting went so smoothly. Syd 3ASC muttered something about the building fund, Syd's deadly in earnest about this building fund. Hon. Treasurer, Jim 3NY, proudly presented his "treasurer's report" showing the wonderful year the Victorian Division has had with a very good balance on the right side and stated that £400 of this balance was to be put into the building fund. This should be very pleasing to all.

The following new members were welcomed to the Institute: As full members—Messrs. P. Barnes, 3GH; J. Occolowitz, 3ZAI; T. Hunt, 3AZY; J. Adcock, 3ACA; A. Frances-Williams, VS2EU, who is here on a visit from Malaya; M. Tulloch, 3AKT; K. Cakebread, 3DW, and as associates Messrs. K. Crockford and I. Darling.

The lecturer for the next general meeting on May 2 will be Mr. Wally Hunter, of Zephyr Products, and he will give a general talk and discussion on microphones. For the June meeting the lecturer will be Mr. Campbell, of Masse Batteries, and he will give a general talk on storage batteries. He will also have on display sample of batteries, both lead acid and nickel iron types.

We are pleased to announce that contest and award certificates, made available by this Division, now have the recipient's name and call sign hand-lettered with Indian ink. This makes a far better and more worthy job than typing. (We are indebted to Len 3LN for offering to do this job. Thanks Len.—Ed.)

80 METRE TRANSMITTER HUNT

A good crowd turned up to the March hunt when the tx was hidden by Len 3LV at Lysterfield in a bushland setting up in the hills in the Ferntree Gully area. This location was a little further out than usual and provided a very nice afternoon's run into the hills for those who weren't merely bent on finding the tx. Len 3LV hid the tx in his car, which he had driven off the main road well into the bush. In these rustic surroundings the gang had a very enjoyable get-together as usual and finished up with a picnic tea. The winner was Roy 3ARY and his right-hand man, Ray Price, and were closely followed by Bob 3OJ.

SOUTH WESTERN ZONE CONVENTION WARRNAMBOOL

The zone activities have been colossal the last few weeks owing to the Convention held in Warrnambool on 17th and 18th March. John 3ARJ set up his rig at Bill Wines' QTH on Saturday morning for use of the mobiles en route. Ted 3PS and Bill Wines were at the mike. Kevin 3AKR was the first mobile worked. Next came 3AGD and company. There was a steady arrival of Amateurs from then on and all enjoyed afternoon tea, provided by Bill's XYL, 3XI's daughter and Mrs. Adams (3ARJ's mother).

and company won the first hunt. The next hunt followed within a few minutes and was won by Bill 3AMH

The scramble was conducted in one of the local parks and as time was getting on, each competitor was allowed three CQs. The winner was Don 3PO from the garden city of Ballarat, followed by John 3AGD. All then returned to Bill's QTH where afternoon tea was served. Thanks were bestowed on the girls by 3AMH, 3AGD and 3JA. 3ARJ donated two 807s as prizes, which were won by 3AKR on the first hunt and 3AMH on the second.

This concluded a very good Convention and I would like to thank you all for making it what it was and we hope to see you all in November when the Convention will be held in Ballarat.—Bill Wines.

Stop Press.—All zone members congratulate 3ZAZ and XYL on the arrival of a daughter.

CENTRAL WESTERN ZONE

During the month we were pleased to see a good photo of Rex 3UR, of Bendigo, in one of the daily papers; nice work Rex, I guess you have been enjoying improved conditions on the DX bands during past few months, and have you got that long wire antenna in operation yet? Conditions on the 2 mx band seem to be good also as Garry, junior op. of Herb 3NN, has been hearing signals from Melbourne, Warrnambool, Ballarat and Adelaide. Allan 3HL has been on holidays and has acquired a lot of a.c. gear. Chas. 3IB has been working his cobber, 1GA on Mawson and many other DX stations. The new rig is working very well, but he is now thinking of using a pair of 6146s in place of the 813. Have not heard much of Keith 3AKP recently, but I believe he is building a new rig, using a pair of 807s, driven by a Geloso. Jim 3DP is on the air fairly regularly, but work on his grazing property keeps him pretty busy. Merv. 3AFO has not been very active of late; he also has another hobby, that of coloured photography, so presume that has been taking most of his spare time.

discussion was the Zone Convention. A tentative date was the week-end before the Queen's Birthday week-end, so would like all to come on the air and discuss it further. The convention this year is to be held in Morwell. Graham entertained us with some coloured slides, after which a delightful supper was served.

Ian 3AAV went to S.A. for his holidays and worked mobile-portable while there. His signal was heard on the 80 mx hook-up at 5/5. David 3DY and YL have been touring (day trips) in Gippsland and working mobile; also joining in the hook-ups. Ron 3PR and family favoured Jack 3AJK with a visit during the Easter holidays. Ron still says no 2 mx for him, still we will see. Stations constantly on 2 mx are Stan 3ZAB, Ron 3ZD, Rex 3VL, Jim 3DI, Bill 3TY. George 3ZCG and Jack 3AJK went up on a hill at Moe South to take part in the v.h.f. field day in March. Many contacts were had, and signals were loud and clear.

Peter, 2nd op. at 3AJK, has sat for his ticket and is awaiting results. Good luck, Peter. Short wave listeners at Moe, Des and Terry, have built 2 mx beams and are now building converters. Len 3LV was heard on the hook-up after a long period of silence. Bill 3WE still coming on too. George 3ZCG went mobile on 144 and 238 Mc. during the Easter week-end with good success, stations being working in Melbourne, Geelong, and Colac.

VK3 SOUTH WESTERN ZONE DINNER. **Back Row** (left to right): Ian 3BV, Brian 3ADV, Frank Alexander, Geoff Clarke, Norm 3EQ, Geoff Munday, Bill Neil, Les 3DX. **Middle Row**: Ted 3PS, Eric 3ANQ, John 3AGD, Bob 3IC, John 3ARJ, Jim 3ABT, Neil 3HG, Ken Croxford, Bill Bell, Leigh 3II, Gordon 3AGV. **Seated**: Bill 3AMH, Ed 3AEH, Cec 3YW, Kevin 3AKR, Bill Wines, Harry 3XI, Jack 3JA, Harry 3HF (in front). Block by courtesy of "Warrnambool Standard."

Jim 3ABT and XYL arrived about 6 p.m.; 3AEH, XYL and family arrived along with old faithful, Bob 3IC, working mobile on motor bike. Pleased to welcome Ted 3PS after a long absence from Amateur Radio, and regret to say he has been very ill and all wish him a speedy recovery. Mart 3MH, who was once a member of our zone, wished us a very successful Convention in a QSO during the afternoon—a very nice gesture indeed. An excellent photo was taken of the group at the dinner and these may be obtained by contacting Bill Wines.

The annual meeting took place at 8 p.m., after which Leigh 3II treated us to a good film show. At the conclusion of the films we adjourned to a local coffee lounge for supper.

Sunday morning all assembled at 9.45 and tuned up loops for the first tx hunt. No one seemed able to pick up proper directions, although at one stage 3AKR, 3AGD and 3PO were within feet, but time beat them. After this we returned to Bill Wines' QTH for the broadcast. Later the visitors moved to Harry's (3XI) shack for inspection of equipment, beams, etc. After lunch we returned to meeting place and prepared for more tx hunts. Kevin 3AKR

EASTERN ZONE

Many stations are noticeable by their absence on the 80 mx hook-ups, so chaps what about pulling your weight with the rest as there is a big programme ahead of us this year. The Latrobe Valley Radio and T.V. Society and the East Gippsland Radio Club held a combined meeting at Graham's 3QZ at Tralagon. Although attendance was a little disappointing, a good night was had by all. Main business under

NORTH EASTERN ZONE

Col 3WQ is understood to be still in difficulty with housing, hence no ventures into radio yet. Syd 3CI is doing well on 10 and 15 mx, with a "cubicle quad" on the former. Johnny 3ACK is one of several with only limited time for Radio. Former Zone Vice-President, Rex 3UR, now City Engineer in Bendigo, is often quoted in the metropolitan dailies, once lately on his Amateur activities. Vern 3AXW is to experiment with aerial systems. Les 3ALE has his BC348 back on standard line-up. Alan 3UI, Keith 3JC and Stan 3AGT are all thought to have participated in recent QSL card distributions. Tom 3TS and George 3GD are also believed to have participated. Peter 3APF specialises on the 5 mx work. Howard 3YV and Jim 3JK are both on tx construction. Bruce 3QC has not been in the Radio field lately. Brian 3AWZ is also off the Radio, being busy studying. Ron 3AQG is getting help to build an all-band tx. Des 3BP is away on holidays.

Henry 3HP is on the closing stages of the year's r.f.b. radio work, but there is nothing about either Bill 3AWQ or Jack 3AKC at the

moment. Doug 1IJ celebrated his recent birthday on Macquarie Island by making a hike, in company with a physicist friend, of total length 46 miles, in one day. Bruce 3AGG and Brian 3ASF are working away quietly on 20 mx. At time of writing, Ray 3FI had not completed his shack, neither had Murray 3HZ moved into his new house. Alex 3AT is understood to be tied up with professional work. John Goodall 3ZBG hopes to complete his Morse for full Amateur status later this year. Associate Jack Dunne is also studying to sit for his A.O.C.P. later in the year.

Keith 3DW has to trace a particular fault in his rx. Bill 3JP is thought to be building a new garage. Ken 3KR and Hugh 3AHF are working 20 mx DX, when opportunity offers, while Vic 3ABX and Jack 3PF have not been heard lately. Des 3CO in Seymour is making himself very useful. It is not known just how Frank 3ZU is going with his projected leave, neither is it known if Kevin 3IR is doing much in Amateur Radio. The twins are proceeding quietly at night. By the time these notes appear in print the next North Eastern Zone Convention should have proceeded beyond the stage of discussion, and 3WI will have the latest information.

GEELONG AMATEUR RADIO CLUB

The boys have recovered from their trip to the Convention at Warrnambool and stated they had a good time. The officers of the zone will be published in the S.W. Zone notes soon. Bill 3AWZ recently entertained members at his QTH on the old subject of "100 Kc. oscillators and multivibrators and their application." An interesting question time followed. Later that evening the XYLs regaled their wasted spirits with a tasty repast. John 3AJT has donated a large quantity of excellent material for disposal as club members and the technical committee decide. A great many components will be embodied in the club's new tx.

At last 144 Mc. is taking its toll. 3AEH and 3AWZ, with 3ZAV, are delving into the mysteries of this band, and are still looking for more signals on any evening after 9 p.m. New beams, converters, and crystal tx's are the order of the day.

The recent announcement of the all-band call to Jim 3ABT was received with great delight. We hope to hear Jim soon on all bands, but not simultaneously. Fred 3ALG is working his share of DX on 20 mx; uses the W8JK and the T2FD. Recently heard 3AKE on 2 mx, putting out his usual fine signal.

What about some of you mobile 2 mx gang coming to Geelong and showing we beginners how all the junk works? I guess you would really stir up activity in these parts. Bill 3WT has been on the sick list again and we trust he will be well soon. Gordon 3AGV is getting into Geelong on 2 mx from Colac; also heard Mart 3AKV and Gordon 3AGE working Geelong chaps on 80 mx.

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QUEENSLAND

PRESIDENT'S REPORT, 1955-56

[Owing to a limitation of space, it is regretted that parts of this report have been deleted. —Ed.]

The past year has been rather a difficult one for Council and the members of the Division in general, and we have seen quite a few changes in our administration. Our elected President, Mr. Keith Grice, 4DG, having to retire from this position owing to a transfer to Atherton, this position was taken over by yours truly, and until one takes office, he doesn't realise just what it entails to keep the workings of the Division running smoothly. Secondly, our Secretary, Mr. Bill Young, 4YA, retired due to a serious illness, leaving the Division in a spot because Bill really had the interests of the Division at heart and had his fingertips on everything associated with the running of the Institute. The appreciation of all members, both in the country and city, was shown in a very appropriate way. The Secretary's position was taken over by Jim Rafter, 4PR, who is very quickly getting into the general swing of the Secretary's job.

It is certainly heartening to see better roll-ups at the general meeting each month, and I am sure that with the band conditions getting better each month, more and more will attend. Our membership over the past twelve months has shown a steady increase, there being approximately 160 financial members in the Division and about 40 of these are in the greater Brisbane area. Our financial position over the past year has been rather sound, although we had to increase membership fees to offset rising cost of various items. Full financial details will appear in "QTC." Our display at the Q'ld Industries Fair gave the Division quite a boost from this venture.

The forthcoming year will see us in a new meeting place, State Service Union House, Elizabeth St., City. I strongly urge all members to attend the monthly meetings.

Listeners' Group

This Group was formed with the express purpose of encouraging younger people to become interested in Amateur Radio and electronics in general. After the Group had been formed members seemed to drift away. It has been pointed out to the Division that unless we get someone from among our ranks with the necessary time available to foster the Group, the scheme is doomed to fail. This situation will, I hope, be rectified in the forthcoming year because it is from the young people of today that the new calls will spring from.

Queensland Industries Fair

This Division at the Industries Fair conducted a very interesting working display of an Amateur Radio Station. Many good contacts were made and considerable interest was shown by members of the general public. To all those members who assisted with a loan of equipment and the operation of the station, my sincere thanks and I hope this display will be put on again at future exhibitions.

Reports

QSL Inward and Outward Bureaux.—Both inward and outward QSL Bureaux indicate the amount of cards handled was greater than the previous year, this possibly being due to better band conditions and activity on 21 Mc. increasing. All cards were dispatched promptly. Many thanks to Jack 4JF and Miss Clare O'Brien's unsparing efforts in this regard.

V.h.f.—The past year has been a very successful one as far as 144 Mc. is concerned. The activity on this band has increased considerably and the number of country centres operating has improved. The VK4 distance record for this band has lengthened several times since March last year. The issue of the Limited Licence has helped to increase activity and new stations have sprung up at Warwick and Ipswich. On 50 Mc. during the Ross Hull Contest, 4NG (Rockhampton) made contact with JA1AHS (Japan). Let's hope more records on these bands will be broken by VK4 boys.

Emergency Group

During March this year our Emergency Group Network came into operation and this time I am pleased to say with the complete blessing of the Radio Inspector's Dept. Communication was out with Cairns and some towns north of Townsville and the net was asked to provide communication to those centres, but early in the piece North Q'ld was without power. However, on Wednesday, 7th, communication to Cairns was set up and many telegrams were passed both ways. Credit must go to the Chairman of the Emergency Group, Vince 4VJ, for the splendid way in which the whole situation was handled and thanks to Eddie 4EW and Clive 4CC for their unsparing efforts in passing traffic and to all those who participated in this event. Although a lot of criticism was levelled at the Group from various centres we feel this was mostly due to the fact that most centres did not know the correct procedure to adopt. However, seeing this was VK4's first real participation in emergency, experience was gained, and a set policy for all centres to observe will be forthcoming in a future Bulletin to be issued by the Emergency Group.

Contest Committee

Our Contest over the past year has met with good response from the members and some very fine scores have been achieved. VK4 Intra-State Contest was held in April and 4PQ won this event (he receives an order for 2 guineas from a trade house); 2nd, 4HZ (pick-up, redonated by 4KS); 3rd, 4LF (3 ceramic formers, donated by 4XL). In the "R.D." Contest, 4PQ was first (electric clock, presented by Tracksons); 2nd, 4CC (Geloso mike insert, from Irvines). The prize for the average log score went to 4OX, being an open order on G. Wills and Sons for 5 guineas. There are no results yet of the VK-ZL Contest. Prizes will be: Highest Score in VK4 wins 6 inch Rola Speaker. Highest c.w., Acos Mike from Chandlers, and the contestant with aggregate score nearest the average for the State will win one toast and rack toaster from E. V. Hudson for phone, and a dynamic mike and stand from Chandlers for c.w. My thanks to Contest Committee for their efforts throughout the year in conducting these events.

Country Report

Although most country centres have been very active with their own groups, both h.f. and v.h.f., no report has come to hand in time for inclusion here. The country hook-ups have been fairly regular every week.

In conclusion I wish to thank the Council and all members who have assisted me so much in the past year. To the retiring Council I say we are all sorry to see you leave and I wish the new Council every success in the forthcoming year. To all members of this Division I say support your Council and Division, attend your general meetings, give Council your problems so that they may help you. On the air be courteous, always willing to help the other fellow, abide by the regulations and last, but not least, remember TV is not just around the corner, it's here!

(Signed) Frank B. Bond (4ZM), President.

TOWNSVILLE

The cyclone that hit Townsville did untold damage around this QTH. A large igloo alongside my fence and another behind my house lost many hundred sheets of iron and to cap it, I lost my 3 el. on 20 mx, 2 el. on 15 mx, and folded dipole on 40 mx were all wrecked, but fortunately the tower still stands. Ted 4EJ lost his tower, together with his new ZL Special; hard luck Ted, all the boys will give you a hand when you are ready.

Power and telephone lines were down in many places and it was around 5 p.m. Wednesday night that John 4DK came on with power from Kalamai Sugar Mill. He informed the Police and Postmaster at Ayr he was in contact with a station near Townsville (4RW) and if required could help pass traffic, but no one interested, even though a bank-up of telegrams were awaiting despatch. I was then asked by 4AW in Brisbane to organise a net to Cairns, and after much trying, Andy 4BW (in Mareeba) contacted the local Police to get a message through to Police in Cairns to have one of the local Amateur Stations come on the air, but again no one interested. So much for Brisbane asking for a net station.

Later on Ted 4MH came on for traffic handling. Harry 4HK (Atherton) came in with a message, which was eventually passed to 4AW on Thursday morning after approval had been given. Norm 4NT, who was in Gunnedah last year in the floods and handled emergency traffic, moved to Mareeba to be away from floods, and this time he was again called upon and his station was manned by himself and Bob, one of the local P.M.G. operators, and many hundred telegrams were passed as official channels were closed.

Thursday night 4BW opened up with traffic to 4RW on 7 Mc., which was taken by 4BX to re-transmit on 14 Mc. to Brisbane. Good work, Graham.

Frank 4FC at Ingham did yeomen service for his township with traffic handling.

Our club is asking that all dope on "Emergency Net," as set up in Brisbane, should be distributed to all Amateurs in country areas.

Any boys in the north not mentioned handling traffic, many thanks as I could not hear everyone.—4RW.

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SOUTH AUSTRALIA

The rate the months rush by these days makes me quite sure that when Gabriel blows his silver trumpet I'll still be writing notes for "A.R." For the time being they seem to be well back into my lap in spite of all my attempts to unload them. For the past umpteen years at this time, too, it has always been Doc's privilege to have his annual smack-back at the ex-venerable purveyor of meadow chaff—yes, you remember right, 5PS to wit! Not all the enticements I could muster would change Doc's steady No. No! No!!

Another general meeting brought forth a bumper crop of members and visitors. Whether it was the prospect of getting some new gear or merely the not disappointing hopes of a first class entertainment from Dougal and Norm which drew the crowd, I'm not prepared to say. The usual welcome to visitors—Messrs. McKellor, Cant, Arbon, Yelland, Taylor (ex-VK3) and Maxted—was made by the President, Mr. John Bulling, after he had been accepted by the members with great acclamation. Back into the fold for the evening was Don 5DX, brought along by Dave 5BF. These two run a sked on 80 mx each evening. John disposed of the business in double quick time and the QSL cards and smoko were taken together. The members then settled down to some tendering —and, by the way, some proceeded, we all would have been there yet! Thanks Dougal and Norm for all your help.

Last year, Warwick 5PS was domiciled for his holidays at Oakbank. Having taken the precaution of borrowing my Type 3 Mk. II. beforehand and finding the National Field Day coinciding with quite a few contacts he had

made, he submitted a log—and won the State award! This year the F.C.C. tricked him by reverting the date to Feb. 12 and now nobody's on speaking terms, although 5WI did condescend to work him on Sunday morning.

Council invited Les 5LC to fill the vacancy in the ranks and last Wednesday (4th) John 5KX, who was in the chair, gave Les a warm welcome. Those present immediately thought of all the jobs that could be unloaded onto Les and finally knowing a "little bit" about this game of DX and Contests, he accepted a nomination to the Federal Contest Committee. His name, together with Gordon 5XU, Reg 5QR, Reg 5RR, and Rex 5DO, will be forwarded to Federal Executive for acceptance by Federal Council.

The T.v.i. Executive Committee is forging ahead with its plans and will open the barrage at the May meeting. Ian 5ZAM, who is right in the thick of t.v. at a local industry, will open the lecture and he will be followed by Phil 5ZAD. Ray 5BT will be the last to speak, but what he has to say will not be least. So whatever you do chaps, don't miss this series of lectures on what's wrong and how to fix it!

Members will be sad to hear that Len 5YF is very ill in hospital as of writing and Council has written to Mrs. Sawford expressing sincere sympathy on your behalf. I hope that by the time this is printed that Len will have turned the corner and be well on the road to recovery. Lance 5WF ("Inky" to you) is also having his share of ill-health and to you also we send our "get-well" signals OM. We are all very glad to see Alan 5VO about on his feet again. See that you keep us happy, Alan!

Called on Clem 5GL the other evening to find him amidst hunks of quartz, grinding and cutting for the lick of his life. He showed me his latest "acquisition"—a 2 inch slab, cut from a crystal at least 10 inches across which was almost flawless. The loveliest specimen that I have ever seen, which will no doubt be keeping some of the v.h.f. tx's on frequency before very long. Clem knows his stuff on this game and one day when he gets time off from making "rocks" he's going to make two tape recordings for the country chaps—aren't you, Clem! Sidestep that one OM. Clem is also one of the members of the Technical Advisory Committee.

EYRE'S PENINSULA

Way out at Ceduna, George 5EC still xtal control on 7046 Kc., working hard fitting out the Bush Church Aid Medical Service area with transceivers. Doesn't find much time to "ham" these days, but puts a beautiful signal into Adelaide when he does. Further East the Lincoln boys are becoming active with Pat 5LT burning up his "mike" with the hot DX that he is working—notice you're back into the fold again too, Pat, nice work; we like to have you all in the W.I.A. Jack 5VJ has a new shack with a house around it, but we haven't heard too much of you over here yet; what about it? Wally 5DF busy swotting how to turn H2O into ECO using a pair of 866s—seem to have that mixed somehow; never mind Wally, time will right all wrongs they say. Norm 5YM forsaking Wedge Island for fairer sights in Lincoln. Just what happens to those wild goats Norm?

LOWER NORTH AREA

From the area of bigger and better tx's, rx and beams, comes word that Ern 5EN has nearly completed his 22 tube converter, xtal, of course! to work on all bands. Bob 5RI been making changes in the bands not for me to comment on. Les 5AX trying his hand on mobile outfits and almost took my offer of a Type 3 but still had a few grey hairs left to tear out, so turned it down. VK3s will look for that lost signal Les—give them a ring on the phone; hope you have a good trip anyhow.

Comps 5EF laid low by the thought of a lecture on 144 Mc. gear, but says when his two tubes are not gassy, he'll come good. Hurry up and get well OM.

SOUTH EAST AREA

This land of promise visited by Joe 5JO, Charlie 5ON and Doc 5MD over Easter weekend. Charlie and Joe portable; sounded like there was water in the mike Joe when I heard you! The meeting last month was graced by the usual roll up with the evening taken up with some 35 mm. colour slides and a session of monthly activities. The 2 mx gang still running their session every Monday evening and Erg 5KU reports this period as the only time when Tom 5TW is heard.

Col 5CJ and Claude 5CH active occasionally on 40 mx. Stuart 5MS interested in a new hobby called "Zephyr" which is reducing the QRM on the DX bands—a temporary respite we hope. John 5FD still hasn't found out if his rig works—spends every week-end on the lakes water ski-ing. Thrills and spills a-plenty. Erg 5KU looking for DX on 20 mx, but expects to get back in the air as well as on it when the new sail-plane arrives from Adelaide soon. (Thanks for the news Erg.)

Occasionally one of our birds of paradise flies eastwards and the VK3 boys turn on the hospitality. Frank 5MZ, having migrated back home from the "big smoke" to our quiet village on the Torrens, is still radiating good cheer to all around him. Many Amateurs rallied round to make a wonderful time for Frank, who said, "There's no doubt about the Preston boys." Frank tells me that the VK3 gang rush the VK5 notes—hmm. I'd better go read up those libel laws again, just to be sure!

Just a sober note to close chaps. S.w.l's. are keen prospective Amateurs, but just occasionally where there is a disability, like blindness, s.w. listening is life in a broader world and answers to reports on our signals with a QSL card mean more than a piece of paper embossed with a call sign.

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WESTERN AUSTRALIA

Sorry about missing last month's notes, chaps. What with shifting QTH and one thing and another, things became a little sticky at times. Many VK6s recently had the pleasure of meeting

W2APF, Uncle Dave, who visited this State in the course of an unofficial goodwill tour of the world. Dave proved to be quite a character. Those who attended the Feb. meeting of the Division had the pleasure of hearing Dave lecture on the emergency work done by Amateur operators in the recent disastrous floods on the East coast of U.S.A. Dave's next port of call was to be Singapore, and he was worked by some of our 20 mx boys from the shack of VS6CZ.

The visit to Kwinana Refinery proved to be successful—a party of about 50 attended. Suggestions for visits to other places of interest have been coming forward and will be dealt with by the new Council.

Talking of the new Council, nominations which have been submitted are: 6TP, 6MK, 6KW, 6RU, 6BE, 6TR, 6AG, 6FT and 6HR. Since there were nine vacancies, there will be no ballot and those nominated will be the incoming Council.

Motions of appreciation have been passed in recognition of the work done by the retiring members, 6LJ and 6GM, both of whom have given their services over a number of years.

Thanks have been expressed by the Narrogin Car Club for the part played by Amateurs in the recent car trial. W.A. Amateurs worked stations at Narrogin, Norseman, Esperance, Albany and Bunbury. Communication was successfully maintained over the whole period of the trial.

That's enough of business, girls, so if you'll pull your chairs around, I'll pass on a bit of gossip, I've picked up here and there. Don 6ZAK; what happened at Narrogin? I've been looking at a photo. 6TK was seen shooting through town on his way to the East. 6WJ has been demonstrating his t.v. gear to interested parties. Tom 6TH, of Brunswick, has been snatching time for meals between Ham Radio. Tom, incidentally, is the first VK6Z call to gain the full licence. 6RK made a brief appearance on 80 mx the other night; heard him telling 6EJ something about 2 mx gear. 6ZAA and chauffeur, 6BE, intend making a trip to 6EJ's QTH to convince Jack that 2 mx working with Perth is a workable proposition. Jack is busy building a 5/5 beam for 2 mx. 6BE and 6ZAA intend to continue on to Kalgoorlie from Bencubbin and try to work back to Perth from there. Now that they have given him some a.c., 6JR has been making regular appearances on 40 and 80 mx. Glad to meet you, Jim.

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TASMANIA

The Annual General Meeting and Dinner, marking a quarter of a century of W.I.A. activity in Tasmania, was successfully organised by the central Tasmanian group lead by Reg 7WN. The meeting was preceded by an extensive tour of the Hydro Electric Commission's Dam Canal, Artificial Lake and Power Station installations. General business was freely discussed and recommendations made for the incoming Council.

Worthy tribute in the guise of Life Membership of the Tasmanian Division was voted on Bob 7OM for his sterling work in Institute affairs over the years. Snowy 7CH has compiled a record of Institute activity since the formation of the Division. The record will be available for perusal in due course and any items of your knowledge not included and worthy of inclusion indicate QSO with Chas forthwith.

With business completed, all adjourned to the H.E.C. Staff Mess where an excellent repast was provided. Mr. Lionel Nutting represented the H.E.C. and Mr. Peter Dunne represented the P.M.G's. Dept. Following dinner, the party in three groups swooped upon the QTH of associate Bill Ion, associate Ken Shotten and yours truly, 7BR.

The week-end was rounded off on Sunday with a tour of Clark Dam, Lake King William, and the major power stations. Visiting XYLs were domiciled and entertained by Joan, Mavis, Patricia and Rene—a mighty effort girls, we are proud of you.

Jim 7JO had "drive" trouble with his vehicle on return trip. Jim's portable midget tx-rx worthy of mention; three wrecked "S" meters prove it worked up here. Ken 7KA also in vehicle trouble after certain gent's manipulation with "exciter" leads. Reverse direction in forward gear, what? Late arrival Sid 7SF and crew arrived in time to accompany 7LS on the northward exit. Sid acquired an aircraft fuselage at a local sale for his new shack. When are you going "airborne mobile" OM? Roy 7RN, with associate Jeff, called, complete with camping body, tx and whip. Len 7LS put out first QRM from the new QTH. Bill 7YY arranging the ownership of some particularly savage breed of canine from John 7AG. One for the front and one for rear gate. Are the b.c.l's. that enraged Bill? Rupt 7RM heard frequently selling the virtues of converted AT5 and his successes with same. The old wise bird again arrived at 7BR's QTH, this time without error in sex. Welcome Julie, understand Poppa now studying radar controlled shot guns.

7LX heard from Northern Zone on 40 mx. Brother you must be the sole survivor of the low bands up there, if the lack of activity is indicative. Associate Bill Ion faces the exam. during April; best of luck, OM. Tom 7AL finally heard at good strength with the broadcast, and off the back of the terminating resistor, too, OM. Joe 7BJ, deputising for the official Broadcast, put in f.b. sig all round recently; bet you do not use a terminating resistor, Joe. Well chaps, if you are not mentioned, you are not heard on the bands. You have not been spied upon and my address is in the magazine. Help me, help you in the coming year. Let me know what you are up to or what your fellow OMs are up to and the editor may print it.—7BR.

NORTHERN ZONE

This month's activities appear to have centred around the DX bands and 2 mx tx hunts. Col 7LZ has worked some rare South African stations on phone; are my spies correct Col? Seems 21 Mc. is a phone man's paradise. However, 7RK seems oblivious to it all, as he is no doubt still pounding the ivorys. Max 7CA has temporarily given away Amateur Radio for house dx-ing.

Most other members have had some real fun in locating a mobile 2 mx tx on a night a few weeks ago, although one suggests a speed limit should be imposed on participating hares, otherwise a crash appears imminent. Must be our "killer" instincts!! 2 mx DX activity has been practically non-existant, very little being heard in that direction from 7PF, 7GM or 7ZAW.

Ken 7LX had an interesting contact—mobile to mobile—with 2ASA on 7 Mc.; which augurs well for the trip in May. Heard David 7AC ragchewing about v.h.f. on 40 mx recently; a break due to University holidays no doubt David.—7LX.

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PAPUA—NEW GUINEA

By the time these notes reach print, it should see our President, Frank 9FN, back in the fold after three months' leave and full of vim and vigor for the job of getting 500w. of r.f. into the W.I.A. station, 9WI. Two of our other members also back from the big smoke—9AU, who I understand is now in hospital, hope it wasn't the shock of coming back Roy! Also Trevor 9TC is now located at Kavieng and looks forward to adding some ergs from that direction to replace the regular effort of 9HO, who is reported to be south. I understand that Jack Cheney, who Trevor replaces, may be coming to Wau, in which case it is hoped that Jack may be able to find the time and inclination to take over the activities of the Wau Radio Club from 9RM when he goes south in June.

We have new associate members in Norm Meanie at Moresby and Glen King at Lae. Glen is building up a hot rx for s.w.l. with an eye to a ticket in the near future, and we all wish you success OM. 9AB has proceeded to N.Z. and 9CR to VK3 land, but hope that they will be returning at some future date.

Of interest to most members is the fact that our Sec. at Box 56, Moresby, has some very nice log books available at 5/3, which includes postage, and our Sec. also wishes to remind members that fees for the ensuing year are now due and to date the response has been very gratifying. Doug 9DB has a wager going with 9RM in a W.A.S. duel. At the present time, they are neck and neck with six to go to complete the tally of fourty-eight States worked. Another associate member recently to join up is John Beach, of D.C.A. in Moresby.

Of general interest to all Amateurs is the announcement from Prof. Webster, of the Queensland University, stating that in the coming Geophysical Year there will be considerable activity to be observed in the 14 Mc. band and higher, due to the Aurora Polaris. Dr. Gerson, of the U.S.A., states that it is anticipated that freak conditions will be prevailing and all Amateurs are asked to send in their names to Divisional Hdq. if they are prepared to assist in keeping data, particularly in the u.h.f. bands. As this letter was addressed to F.E., it is apparently felt that Amateurs generally will be able to play an important part in just what goes on up in the ionosphere, so your co-operation would be appreciated, with the distinct possibility that we can contribute something really worthwhile to the science of radio propagation. While you are giving this matter your attention, you may even knock off a world's record for DX in the u.h.f. bands and change the scenery in "QST" record listings.

We are all anxious to hear from the Rabaul gang and would sure like to get a note from one or all of the half dozen in that QTH. Conditions generally are punk for a QSO on the 40 mx Sunday morning hook-up, although occasionally they show up working DX on 20 and 15 mx through the week. This is now the only out-station area we don't hear from consistently, so how about some of you fellows putting pen to paper and make these notes truly representative of the news for our local Division?

Now we have had our own Division functioning successfully for the first year, how about if we all put our shoulder to the wheel and make this second year even more successful by each contributing a little that will strengthen the bonds to the benefit of all instead of leaving it to the other chap? It should hardly be necessary to repeat the oft-spoken words of wisdom which frequently show up in "A.R." editorials that if it were not for the W.I.A. and A.R.R.L. and similar organisations to represent us as a body in world-wide conferences relating to the allocation of frequencies, that in next to no time the enjoyment of our favourite hobby would be a thing of the past.

Without being too critical of the other chap's performance, let's hear what you have to offer as your contribution for the common good. After all, that's what these notes are intended for.

HAMADS

1/- per line, minimum 3/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

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SELL: AMR300; complete Xmitter or Units; Power Packs 500-1500v. aside; Mod. 807s; p.a. 834s p.p.; p.a. 24Gs p.p.; cheap. A. Shaw, C/o. P.O. S. Brisbane, Phone: J 6526.

SELL: ART2B Tx-Rx complete with dual pwr. supply—12v. d.c. or 240v. a.c., plus original generator supply, £60. D. Williams, St. Pauls Rd., Sorrento, Vic.

SELL: CRV American Tx, new, 815 p.a., 815 mod., etc., less pwr. or exchange for good Rx. Davies, 31 Jackson St., Toorak, Vic.

SELL: RF24 Converter, modified to cover 20, 15, 11 and 10 metres, as new, £7/10/-. Jones, 25 Panoramic Road, North Balwyn, Vic.

SELL: Type 3 Mk. II. Screen Modulated, 10 mx Converter, Command V.f.o., Freq. Meter, will separate or swop for 2 mx gear. L. Hoobin, 448 Glenhuntly Rd., South Caulfield, Vic. LF 9794.

WANTED: Beam rotating mechanism complete with selsyns, transformer, indicator, etc. L. R. Bradshaw, 9 Grange Road, Toorak, Vic. (BJ 1903).

WANTED: HRO Coil Box 14 to 30 Mc. Bill Lewis, 383 Oxford St., Paddington, N.S.W. FA 4967.

WANTED: Records for learning Morse. Details to G. F. Barham, 10 Beaufort St., Northmead, N.S.W.

WANTED TO BUY: January 1955 "QST" in good order. J. E. Rogers, 61 Broadway, Yallourn, Vic.

WANTED TO BUY: 200 Kc. Xtal, also buy or loan of AR7 Manual. C. Bird, 15 Munro Ave., Edithvale, Vic.

WANTED: Type 3 Mk. II. Power Supply. R. A. Fookes, 41 Oxford St., Burwood, E.13, Vic. BX 2073, Business FJ 46559 Ext. 59.

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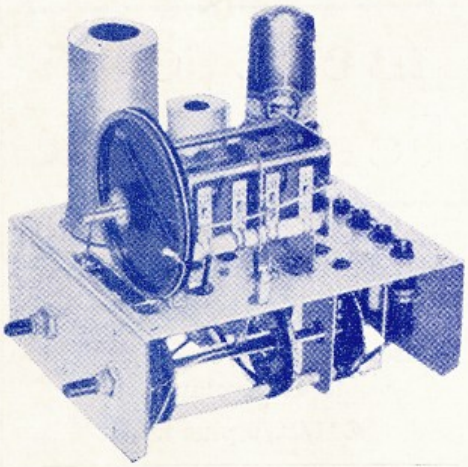

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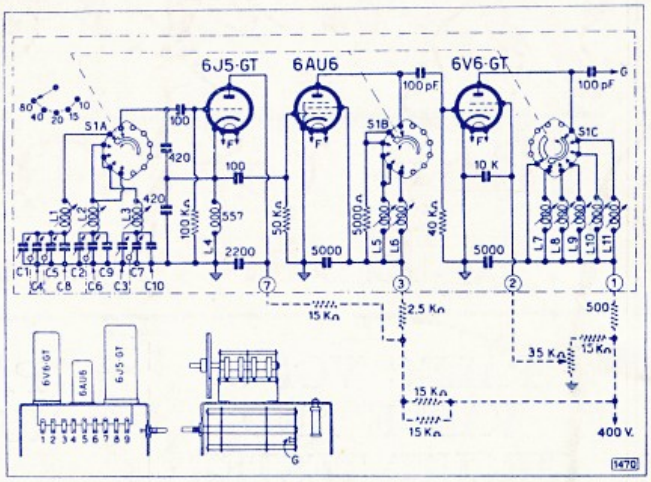

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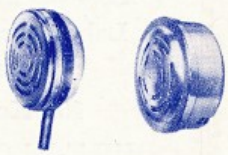

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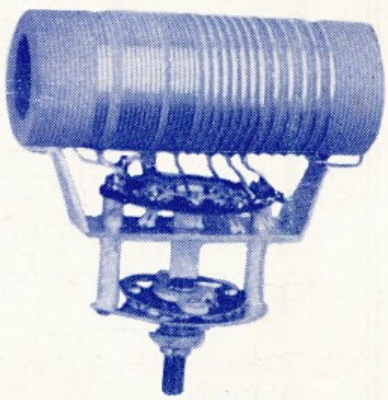

GELOSO PI-COUPLER

As a companion to the Geloso VFO unit the same manufacturer offers a band-switched Pi-Couper with a tuning range of 3.5 Mc. to 28 Mc. of small dimensions and having the capacity of 807 or 6146 output into a load of 40 to 1,000 ohms. Wound on high quality ceramic former. **Price of Cat. No. 4/110 coil, £1/10/6 inc. tax.**

AUSTRALIAN FACTORY REPRESENTATIVES: **R. H. CUNNINGHAM PTY. LTD., 118 Wattletree Road, Armadale, Vic. Phone: UY 6274**